# TEXTILE TECHNOLOGY DIGEST

VOLUME 14 JULY 1957 NUMBER 7

# ABSTRACTS



## FIBERS A

EFFECT OF TEMPERATURE ON THE INITIAL TENSILE MODULUS OF SOME WET FIBERS. J. C. Guthrie (Courtaulds Ltd). J. Textile Inst. 48: T193-T200 (June 1957). (1772)

Initial tensile moduli were measured for wet fibers at temperatures from 22-100° C. A few measurements were made up to 140° C with the fibers immersed in liquid paraffin. Cellulosic fibers have moduli which are greatly reduced by the presence of moisture and, once the fibers are wet, temperature has a secondary effect. In contrast, the synthetic fibers are very sensitive to temperature, and, near the boil, the acrylic fibers have very low tensile moduli. The importance of the initial modulus of the wet fiber in textile wet processing is indicated. Table. Graphs. 30 references.

RIGIDITY, MOISTURE, AND FIBER STRUCTURE. R. Meredith. J. Textile Inst. 48: T163-T174 (June 1957). (1773)

Results are given showing the relation between the modulus of torsional rigidity and moisture regain for ramie, mercerized cotton, Fortisan, viscose rayon, wool, and nylon. The results are analyzed on the basis of a two-phase theory of absorption of moisture, originally proposed by Peirce, but modified to take into account the accessibility to moisture of a given fiber. The fall in rigidity with increase in regain is consistent with the idea that this is caused by the breaking of hydrogen bonds between chain molecules in the non-crystalline regions and that, at saturation regain, one molecule of water is bound to each accessible polar group which would otherwise be linked to a similar polar group in a neighboring chain molecule by means of a hydrogen bond. Diagrams. Tables. 16 references.

## NATURAL FIBERS A 1

IMPROVEMENT OF ASHMOUNI COTTON: OFFICIAL REPORT OF THE ASHMOUNI STUDY MISSION TO EGYPT, 1955. International Federation of Cotton and Allied Textile Industries, 567 Royal Exchange, Manchester 2, England. 1955. 41 p. (1774)

A study was made of the deterioration in grade and staple of Ashmouni cotton. Reasons for the occurrence of tar specks were also studied.



SURFACE OF COTTON FIBERS. PART 1. NATIVE FIBERS. V. W. Tripp, A. T. Moore and M. L. Rollins (Southern Regional Res. Lab.). Textile Research J. 27: 419-426 (June 1957). (1775)

The topography of unmodified cotton fibers was examined microscopically by means of surface replica techniques. The outstanding characteristic of the surface is a system of roughly parallel ridges and grooves spiraling around the fiber at an acute angle (usually 20-30°) to its axis. The pattern of the surface is a reflection of the spiral fibrillar structure of the cellulose beneath the primary wall of fiber. The average height and distance between ridges is approximately 0.5 micron, and many of the ridges are 10 or more microns in length. Table. Electron micrographs. Photomicrographs. 6 references.

SURFACE OF COTTON FIBERS. PART 2. MODIFIED FIBERS. V. W. Tripp, A. T. Moore and M. L. Rollins (Southern Regional Res. Lab.). Textile Research J. 27: 427-436 (June 1957). (1776)

The characteristic surface of native cotton is often altered by commercial and experimental treatments. Scouring usually uncovers the fine cellulose fibrils of the primary or even secondary walls. Mercerization does not eliminate the rugosities of the native fiber surface. Additive finishes change the original fiber topography to an extent dependent on the amount applied. Chemical modifications which increase the fiber cross-sectional area make the fiber surface smoother, but extensive swelling of the cellulose derivative during its preparation appears to create roughness in some modifications. Crease-resistant finishes do not alter the fiber topography significantly. Electron micrographs. 11 references.

EFFECT OF PROCESSING ON COTTON FIBER PROPERTIES. L. Rebenfeld (Textile Res. Inst.). Textile Research J. 27: 473-479 (June 1957). (1777)

In order to study the effect of several processing steps on cotton fiber mechanical properties, six cottons in one-bale quantities were manufactured under identical conditions into a standard construction sheeting. Samples were removed from the original bale, the yarns, the scoured fabrics, the bleached and mercerized fabrics, as well as resin-finished fabrics, and the mechanical properties of fibers at these stages determined. Cotton fiber properties are altered by processing and the magnitude of the changes is not constant for all cottons. The changes in fiber properties are reflected in the changes of the fabric characteristics. Tables. Graphs. 17 references.

RAMIE PRODUCTION MACHINERY. M. H. Byrom. U. S. Agri. Research Serv., Wash., D. C. Dec. 1956. 20 p. Agri. info. bull. no. 156. Available from Superintendent of Documents, Wash. 25, D. C. 20 cents. (1778)

Report on the progress made at the Everglades Experiment Station in developing machinery for large-scale production of ramie in the Florida Everglades, including methods and machinery for central-station decortication and degumming of ramie fiber.

NEW SOVIET FLAX PROCESSING TECHNIQUES. M. Poperyokov. Textile & Cordage Quart. 7, No. 1: 46-48 (1957). (1779)

A new system of aerobic-anaerobic retting of flax, worked out by the Byelorussian Academy of Sciences, and the Gagurin method of flax decortication are described. Diagrams. Table.

## MAN-MADE FIBERS A 2

WORLD MAN-MADE FIBER SURVEY AND DIRECTORY. Textile Organon 28: 77-92 (June 1957). (1780)

This annual survey contains data on the production of man-made fibers in the form of filament yarn, monofilaments, staple, and tow. A directory, arranged alphabetically by country, gives manufacturers, types of fiber produced by each, and trade names where applicable. Graphs. Tables.

SYNTHETIC FIBERS: THE FUTURE. F. J. Soday (Chemstrand Corp.). Chem. Eng. Progr. 53: 307-310 (June 1957). (1781)

The impact of new developments in the areas of raw materials (isotactic polymers and vinyl cyanide and tetrafluoroethylene polymers), new polymerization processes (isotactic, graft, and radiation polymerization), spinning processes (emulsion sintering and spray and draw techniques), and yarn and spinning techniques (textured yarns, bulked yarns, and direct spinning) on the future potential of synthetic fibers is examined.

PRODUCTION AND USE OF FIBERS: POLYAMIDE. A. J. Hall. Texture 4: 51-54 (June 1957). (1782)

The essential details of the manufacture of nylon filaments are outlined. Properties of nylon fibers and their relation to setting and dyeing problems are briefly discussed.

ACTION OF NITROUS ACID ON GROUNDNUT PROTEIN FIBER. A. M. G. Kinnear. (Letter to the editor). J. Textile Inst. 48: T201-T202 (June 1957). (1783)

The reduction of supercontraction in regenerated groundnut protein fiber (which has not been treated with formaldehyde) by deamination with nitrous acid is shown to be due to an increase in cross-linking.

POLYPEPTIDE PROGRESS. J. W. S. Hearle. Skinner's Silk & Rayon Record 31: 624-628 (June 1957). (1784)

Recent developments in knowledge of the structure of polypeptide protein fibers are reviewed. Tables. Graph. Diagrams. 3 references.

ARDIL PROTEIN FIBER. F. F. Goodyear and B. I. Brooke (Imperial Chem. Industries Ltd). Textile Wkly. 57: 1051-1055 (Apr. 12, 1957). (1785)

Types of Ardil, properties, processing on the cotton system, and dyeing are briefly covered.

TERYLENE POLYESTER FIBER. P. T. Standring (Imperial Chem. Industries Ltd). Textile Wkly. 57: 762-765 (Mar. 15, 1957); 802-808 (Mar. 22, 1957); 905-907 (Mar. 29, 1957). (1786)

Part 1. Properties and applications. Part 2. Properties and applications. Tow to top systems. Part 3. Tow to yarn systems.

TACRYL: NEW SWEDISH FIBER. O. Sunden. Fibres 18: 153 (May 1957). (1787)

The wet spinning process, characteristics, and uses of Tacryl, a polyacrylonitrile copolymer fiber, are briefly discussed.

GLASS FIBERS AS A REINFORCING MATERIAL. A. E. Williams. Textiles in Industry 2: 47-50 (May-June 1957). (1788)

The production of glass fiber reinforced laminates for electrical insulation and aircraft construction, as well as the details of assembling an aircraft spinner from the laminates, is described. Photographs.

## YARN PRODUCTION B

BLENDS OF NATURAL WITH MAN-MADE FIBERS. F. Charnley. Textile Recorder 75: 58-59 (June 1957). (1789)

Blending on the cotton, worsted, and woolen spinning systems is discussed briefly.

RECLAIMING GOOD FIBER FROM WASTE MATERIALS. Textile Mfr. 83: 278-279 (June 1957). (1790)

The reclamation of fibers by respinning, using the Tomlinson thread extractor, roving waste opener, run-down or thread preparing machine, and hard waste breaker is discussed. Secondary waste uses such as engine wiping waste and fibrous material for filling axle boxes are also considered. Photographs. Diagrams.

PRODUCTION OF SHODDY AND MUNGO. R. Hünlich. Melliand Textilber. (English ed.) 38, No. 2: 96-100 (1957). (1791)

Dirt removal, sorting, oiling, tearing, garnetting, and cording procedures and machinery in shoddy and mungo production from wool waste are described. Photographs.

PROCESSING ARNEL TRIACETATE STAPLE FIBER. Celanese Corp., Textile Div., Charlotte, N. C. 1956. 11 p. Tech. bull. TD-14A. Free. (1792)

Recommendations are made on processing Arnel and Arnel blends. The information given is mainly on 2.5 denier 2-inch staple on the cotton system.

MANUFACTURE OF COIR FIBER PRODUCTS. A. Glade. Melliand Textilber. (English ed.) 38, No. 2: 114, 116 (1957). (1793)

Machinery for fiber production, spinning, braiding, and weaving is briefly reviewed. Photographs.

MODERN FLAX SPINNING: TECHNIQUE AND MACHINERY. R. C. Jefferson. Textile & Cordage Quart. 7, No. 1: 22-24 (1957). (1794)

Improvements in preparation, carding, wet ring spinning, and winding machinery and techniques for flax are briefly covered.

PROCESSING OF TERYLENE FILAMENT YARNS. Imperial Chem. Industries Ltd. Textile Recorder 75: 66-67, 65 (June 1957). (1795)

Recommendations for twisting, winding, warping, pirning, and sizing. Graphs.

HIGH-BULK YARN OF ORLON. J. D. Arrowsmith (Du Pont Co. of Canada Ltd). Textile Merc. 136: 847-851 (May 17, 1957). (1796)

The effect of drawing and other variables during converter processing of high bulk Orlon on dyeability and shrinkage are stressed to indicate the necessity of adequate controls.

HOW TO USE STRONG FIBRO. Courtaulds Ltd. Skinner's Silk & Rayon Record 31: 632-635 (June 1957). (1797)

Recommendations for mixing, lapping, carding, drawing, spinning, and blending Fibro (including machine settings), fabric dyeing and printing, and end uses. Swatches.

PROCESSING REGENERATED FIBERS ON THE WOOLEN SYSTEM. H. Sneyd. Man-Made Textiles 33: 44-45 (May 1957); 44-45 (June 1957). (1798)

Properties and processing of Fibro, Fibro-Duracol, Fibroceta, and Courpleta on the woolen system. Photomicrographs. Tables.





DIRECT SPINNING. G. Waggett (Courtaulds Ltd). Textile Wkly. 57: 1599-1603 (June 7, 1957). (1799)

The various methods of converting tows into yarns, the main principles involved, and the practical aspects of direct spinning from the point of view of the tow and the machine are discussed. Tables. Photographs.

## OPENING, PICKING, FIBER PREPARATION B 1

STUDIES ON COTTON OPENING AND CLEANING. Z. Szaloki (Whitin Machine Works). Textile Research J. 27: 480-486 (June 1957). (1800)

Some common opening room practices and the unfavorable results of their use are discussed. Test data are presented to show how these difficulties can be eliminated and the contributions made by the Whitin axi-flo and axi-feed toward improvement in this area. Tables. Graphs. Photograph.

WOOL BLENDING. W. J. Crofts. Textile World 107: 74-75 (July 1957). (1801)

The importance of even emulsion application, constant moisture content, and picker settings in obtaining uniform and evenly dyed blended wool yarns are discussed. Pointers on the control of these factors are given.

## CARDING AND COMBING B 2

FIBER BREAKAGE IN WOOLEN CARDING. P. P. Townend and T. W. Chu. Textile Recorder 75: 60-63 (June 1957). (1802)

A series of experiments designed to assess the extent of fiber breakage occurring during carding of 100% Fibro of different lengths and deniers and of Fibro/wool blends is described. Data are presented on the breakage of fibers in a blend, the location of fiber breakage, and the influence of staple and denier on fiber breakage. It is concluded that the major factor contributing to fiber breakage is the length of the original staple rather than the denier. Tables. Graphs.

RECENT DEVELOPMENTS IN WOOLEN AND WORSTED YARN PRODUCTION. PART 2. DEVICES TO REDUCE THE FREQUENCY OF STRIPPING. P. P. Townend. Wool Rev. 30: 35 (May 1957). (1803)

With the Rotomatic fancy, wool cards can run for much longer periods than previously without stripping. Test figures are given to illustrate the difference in build-up on the same machine carding 64s dyed wool on a 22 inch wide card, using ordinary and Rotomatic fancies run at the same speed. Graph. Table.

USE OF METALLIC CARD CLOTHING. J. L. Delany (Joanna Cotton Mills Co.). Textile Bull. 83: 63-70 (May 1957); Textile World 107: 86-88 (July 1957). (1804)

Metallic card installation at Joanna Cotton Mills is described. Data from mill trials are presented in the form of questions and answers. Tables. Graphs.

CARD SURVEY REVEALS OBSCURE SOURCES OF YARN DEFECTS. Saco-Lowell Bull. 29: 11-31 (Apr. 1957). (1805)

A card improvement survey was made at Tallassee Mills to improve the mechanical condition of all cards with the ultimate objective of producing a more uniform card sliver and increasing machine efficiency. Data are presented on the card overhauling program, card grinding, and follow-up of laboratory tests on card sliver. Graphs. Photographs.

CONTINUOUS COTTON CARD STRIPPING. Textile Recorder 75: 77-78 (June 1957). (1806)

Features, mechanical operation, and data from mill trials on waste and nep reduction with the Constant Card turbo suction unit are presented. Photograph. Graph.

NOIL CONTROL IN COTTON COMBING. W. E. Morton. Textile Forum 15: 7-9, 17, 19 (Feb. 1957). (1807)

Repeated experiments with different samples of cotton and with various step gauge settings showed that increasing the amount of drafting given before combing resulted in reduced noil, better quality sliver, a stronger and a better looking yarn. However, to secure these advantages, there must be an even number of processes in the preparation of the laps.

EPICYCLIC ROLLER MOTION ON HIGH PRODUCTION COMBERS 56 AND 57. Saco-Lowell Bull. 29: 32-42 (Apr. 1957). (1808)

The operation of the epicyclic roller motion is described. The bottom detaching rolls are driven in their alternating directions for combing and piecing, so that at each nip the movement forward is greater than the motion backward. The stock advances progressively through the comber with precision piecing of the newly combed fibers to the tail of the web. Photographs. Diagrams.

COMBING CYCLE OF THE HIGH PRODUCTION COMBERS 56 AND 57. Saco-Lowell Bull. 29: 43-47 (Apr. 1957). (1809)

Diagrams and pictures show in detail the operation of the comber through the course of one nip or cycle of combing.

## DRAWING AND ROVING B 3

12 x 7 INCH ROVING FRAME. Saco-Lowell Bull. 29: 50-55 (Apr. 1957). (1810)

Constructional features of the 12 x 7 inch roving frame which produces a large package 12 x 7 inch roving bobbin on a full length roving frame, 96 spindles long. Each bobbin is capable of holding from 30% to 60% more roving by weight, on comparable counts, than the old 12 x 6 inch bobbin. Photographs. Diagram.





MODERN WORSTED SPINNING PRACTICE. N. Roper. Textile Mfr. 83: 225-226, 228 (May 1957). (1811)

Following a discussion of the types of yarns produced on the worsted system, the outstanding features of the English and Continental worsted drawing systems are compared.

## SPINNING, WINDING, TWISTING B 4

CAN SPINNING SYSTEMS. E. Simon. Melliand Textilber. (English ed.) 38, No. 2: 90, 92 (1957). (1812)

Brief survey of the Pfenningsberg, Zinser, Gwaltney, and OM-S spinning systems, with emphasis on the OM-S Japanese system. Photographs. Diagrams. 7 references.

DIRECT SPINNING: A MAJOR COST-CUTTING DEVELOPMENT. W. G. Ashmore. Textile World 107: 66-70 (July 1957). (1813)

Following a discussion of the principles, cost, and problems of direct spinning, the features of the Nastrofil, OM-S super high draft, Pfenningsberg, Saco-Lowell SG-13A and Spinster, Whitin Monarch, and Zinser direct-spinning frames are described. Photographs.

GWALTNEY POWER CONSUMPTION. Saco-Lowell Bull. 29: 1-3 (Apr. 1957). (1814)

Power consumption graphs and data from seven tests on Gwaltney spinning frames in four different mills are presented.

FACTORS AFFECTING COTTON SPINNING DRAFTS. W. S. Smith (West Point Mfg. Co.). Textile Ind. 121: 168-169 (June 1957). (1815)

Graphs present findings on factors affecting forces of cohesion in drafting.

MANUAL FOR TESTING PROCEDURES. PART 5. SPINNING ROOM EQUIPMENT. G. Guggenheim. Textile Bull. 83: 53-58 (May 1957). (1816)

Tests for measuring idle spindles, package sizes, spindle speeds, substandard twists, spooler reties, and slub catcher settings are described. Their application in determining the operational efficiency of spinning frames and spoolers is discussed.

YARN CONSTANTS TO SPEED PRODUCTION PLANNING. M. Chagro. Textile Ind. 121: 88-89 (July 1957). (1817)

A table of yarn count spinning and twisting production constants is given to enable the quick determination of pounds per spindle on 100%, 40-hr. basis. The method of using the table is explained.

EFFECT OF ROLL RUN-OUT IN SPINNING ON YARN QUALITY. W. R. Keyser, J. O. Middleton and J. E. Dougherty (Inst. of Textile Tech.). Textile Research J. 27: 466-472 (June 1957). (1818)

Experimental work on the effects of roll run-out in a spinning frame on yarn quality indicate that the amount of run-out in the front bottom roll can significantly lower yarn strength and uniformity. Deterioration in yarn quality takes place more rapidly as the amount of draft increases. It is recommended that a mill establish its own tolerances and that front roll eccentricity be checked periodically. Diagram. Graphs. Photographs. 7 references.

LANGHORN FLANGED BOBBIN. A. Langhorn & Son. Textile Wkly. 57: 1467 (May 24, 1957). (1819)

The Langhorn bobbin for cabling yarns and for use in weaving industrial and tire cord type fabrics has flanges made from resinated plywood which are mounted on a cylindrical barrel, held rigidly in position by metal plates on their outer faces, and secured by bolts passing through the barrel core.

UNIVERSAL DOUBLE-DECK UPTWISTER TYPE SEZ. W. Kotte. Melliand Textilber. (English ed.) 38, No. 2: 100 (1957). (1820)

The adaptability of the universal uptwister for producing cheeses, bicones, and barrel packages by means of changes in gearing is briefly explained. Photograph. Diagrams.

YARN TENSION DURING WINDING. D. Brunnschweiler. Textile Mfr. 83: 271-275 (June 1957). (1821)

Characteristics of the three broad groups of tension meters (direct reading, damped, and recording) are discussed. The frictional characteristics of running yarns, tension application by means of peg, drag board, shoe, disc, ball drag, and pulley tension devices, and the Schlafhorst Vibrex and Kidde tension compensators are described. Diagrams. Photographs. 8 references.

## YARNS B 5

RELATION OF TWIST TO THE CONSTRUCTION AND STRENGTH OF COTTON ROVINGS AND YARNS. C. B. Landstreet, P. R. Ewald and J. Simpson. Textile Research J. 27: 486-492 (June 1957). (1822)

An equation is developed for predicting accurately from data on a particular yarn number the twist to produce maximum strength in other numbers made from the same material. Graphs. 9 references.

METALLIC YARNS. Modern Textiles Mag. 38: 65-72 (June 1957). (1823)

How modern metallic yarns are made, by W. B. Davis, p. 65-67; Metallic yarns in high fashion, by F. J. Waterman, p. 67-69; Metallic yarns in domestics, by E. D. Miller, p. 69-70; Dyeing fabrics containing metallic yarns, by R. J. Thomas, p. 71-72.





METALLIC YARNS: SPECIAL REPORT. J. H. Blore. Textile World 107: 91-94, 202-204 (June 1957). (1824)

Methods of yarn processing and fabric preparation are briefly covered. Photographs.

OUTLOOK FOR NYLON IN TIRE CORD. D. H. Heckert. Modern Textiles Mag. 38: 38-40 (June 1957). (1825)

Cost and performance data, compared with rayon, are presented for nylon tire cord. Tables.

TIRE CORD FABRIC: A REVIEW. Textiles in Industry 2: 51-52 (May-June 1957). (1826)

Brief review of the comparative properties of rayon, nylon, and Terylene tire cords.

FANCY YARNS IN FINER COUNTS. D. Young and J. L. E. Seidler. Skinner's Silk & Rayon Record 31: 610-613 (June 1957). (1827)

This method for making fancy yarns is more economical than the method using the fancy doubling frame and produces a yarn of random irregularity. Two yarns are twisted together, one which will contract when heated and another which will remain substantially unaffected by heat. The doubled yarn is then heat treated. Any yarn can be used as a core, provided it will contract over 30% after chemical or heat treatment. Methods of preparing the yarns for heat treatment, and factors governing the type and appearance of the yarns are discussed. Photographs.

## FABRIC PRODUCTION C

WARPING, SLASHING, WEAVING AND QUILLING OF ARNEL TRIACETATE FILAMENT AND SPUN YARNS. Celanese Corp., Textile Div., Charlotte, N. C. 7 p. Tech. bull. TD-13A. Free. (1828)

## WARPING, SLASHING, YARN PREPARATION C 1

WARP PREPARATION AND WEAVING: A MANUAL FOR TESTING PROCEDURES. Textile Bull. 83: 85-87 (June 1957). (1829)

Measuring slasher stretch, determining the proper amount of stretch, and determining size viscosity.

MODERN TRENDS IN SLASHING PRACTICE. Textile Mfr. 83: 287-290 (June 1957). (1830)

Modern techniques of (1) tension control by the use of sectional drives with variable speed motors and automatic controls, (2) drying control by electronic methods, (3) accelerated production speed, (4) elimination of cooking and maintenance of constant quality in size mixing, and (5) automatic size take-up are summarized. Photographs. Diagrams. Table. 7 references.

WARP SIZING. PART 14. P. V. Seydel (Seydel-Woolley & Co.). Textile Ind. 121: 150-157 (June 1957). (1831)

Slasher room layout and size cooking systems are discussed. Diagrams. Photographs.

WARP SIZING. PART 15. P. V. Seydel. Textile Ind. 121: 110-116 (July 1957). (1832)

Discussion of storage kettles, size boxes, constant level controls, circulating systems, and types of slashers available. Diagrams. Photographs.

WARP PREPARATION AND WEAVING. A. Ormerod. Textile Wkly. 57: 1114-1118, 1168-1172 (Apr. 19, 1957); 1195-1198, 1215 (Apr. 26, 1957); 1288, 1290, 1306, 1308 (May 3, 1957); 1536-1538 (May 31, 1957). (1833)

Part 1. Cost study of a Benninger high-speed sectional warping system for colored warps vs. the conventional scotch beaming system. Part 2. The Barber-Colman system of automatic high-speed spoolers and warpers and its effect on weaving efficiency. Part 3. Competitive position of shuttleless weaving, preparation technique and ancillary equipment for Sulzer weaving, and the extent to which adoption of the Sulzer loom is economically justified. Part 4. Discussion.

## WEAVING C 2

WEAVING MECHANISMS: MODERN TRENDS AND DEVELOPMENTS. D. C. Snowden. Textile Merc. 136: 749-751 (May 3, 1957); 792-795 (May 10, 1957). (1834)

Part 1. Drives, shedding, and weft insertion methods. Part 2. Warp letoff and cloth takeup mechanisms, weft replenishment mechanisms, and loom design.

STUDY IN LOOM FIXING. PART 13. F. D. Herring. Textile Bull. 83: 73-76 (May 1957). (1835)

The individual and collective responsibilities of the loom fixer and the weaver are discussed. Causes of overshots and undershots in cloth are listed and loom adjustments for their elimination are explained.

HOW TO ALIGN LOOM BEARINGS. W. C. Westbrook. Textile World 107: 116-117 (June 1957). (1836)

Rules for correct alignment and lubrication of loom bearings and shafts. Diagrams.

WEAVING LOOM-BONDED RAYON SCRIM. J. A. Roberts (Am. Viscose Corp.). Textile Ind. 121: 86-88 (July 1957). (1837)

A fabric bonding device, applicable to the Crompton and Knowles S-6 loom and various Draper models, prevents fabric distortion in weaving rayon scrim by binding the warp and filling yarns in place during weaving. Photographs.



INCREASED EFFICIENCY WITH HIGH CAPACITY SHUTTLES. K. Bunse. Melliand Textilber. (English ed.) 38, No. 2: 113 (1957). (1838)

The advantages of high capacity shuttles and supercops in wool weaving are analyzed.

SHUTTLE-INSPECTION SYSTEM. E. R. Beckner. Textile World 107: 149, 200-202 (June 1957). (1839)

A detailed checklist for shuttle inspection.

MEINERS LOOM-LITE. Meiners Optical Instruments Ltd. Textile Merc. 136: 887, 903 (May 24, 1957); Textile Wkly. 57: 1468 (May 24, 1957). (1840)

Features of the Loom-Lite reed and heddle illuminator, a visual aid to the weaver in drawing-in broken warp ends speedily and efficiently and without eye-strain. Photograph.

FABRIC ORNAMENTATION BY SPECIAL REEDS. H. Walter. Melliand Textilber. (English ed.) 38, No. 2: 108 (1957). (1841)

Fabric designs which can be produced with the fan reed, bent reed, and pearl reed are explained and illustrated. Diagrams.

ELECTROMECHANICAL PICK MOTION. R. J. Demartini, T. F. Rapp and L. F. Cunningham (F. C. Huyck & Sons). Textile Ind. 121: 140-142 (June 1957). (1842)

A new pick motion is described and illustrated which permits wide looms to be operated with less speed variation by dialing (with the loom running) to increase or decrease the voltage applied to the clutch magnet. Photographs. Diagram.

SHUTTLE CHANGING TECHNIQUE IN WEAVING. M. Kienbaum. Z. ges. Textil-Ind. 58, No. 23: 907-910; No. 24: 945-947 (1956). In German. Through BCIRA 37: 71 (1957). (1843)

Points to be observed are discussed, with reference to circular box looms, and changes for smaller numbers of picks, for a checkered order of picks, and for pattern weaving.

ELIMINATING MISPICKS. E. P. Schremp. Textile World 107: 142-143 (June 1957). (1844)

Check points for winders and weavers.

JUTE AND LINEN WEAVING. PART 3. CHAPTER 6. LOOM TEMPLES AND WEAVING CONTRACTIONS. W. Haggan. Textile & Cordage Quart. 7, No. 1: 41-45 (1957). (1845)

The causes of weaving contractions are analyzed, and the particular advantages of various types of temples (trough, roller, ring, star, etc.) are discussed in detail. Diagrams.

## KNITTING C 3

CABLE STITCH PATTERNS ON THE FLAT PATTERN-KNITTING MACHINE, TYPE DOFUMA. A. Zimmermann. Melliand Textilber. (English ed.) 38, No. 2: 118, 120 (1957). (1846)

The mechanics of producing cable stitch patterns automatically on the Stolle Dofuma pattern-knitting machine are explained in detail. Diagrams.

NEW BENTLEY-COTTON MODEL R RIB-END KNITTING MACHINE. J. B. Lancashire. Hosiery Trade J. 64: 59-61 (May 1957). (1847)

Technical features of the new Bentley high-speed straight-bar bearded needle rib-end machine for knitting full-fashioned fabrics. Photographs.

PATTERNING ON MODERN DOUBLE CYLINDER MACHINES: A REVIEW OF CURRENT TRENDS AND FUTURE NEEDS. I. R. Thornton. Hosiery Trade J. 64: 80-82 (June 1957). (1848)

Following a brief discussion of 2- and 3-color jacquard links-links with wrap stripe, and combined jacquard and links patterning, 3-color jacquard patterning is considered in detail. Diagrams.

FIXING FULL-FASHIONED KNITTING MACHINES. R. D. Brackett. Textile Ind. 121: 188-191 (June 1957). (1849)

The importance of aligning the press rollers, needlebar rollers, and knuckles on the regulating shaft to give trouble-free operation of full-fashioned machines is emphasized.

QUALITY CONTROL IN HOSIERY PRODUCTION. J. Rab. Hosiery Trade J. 64: 65-67 (June 1957). (1850)

Methods of increasing the effectiveness of a quality control program in hosiery production are discussed.

## FABRICS C 4

LIGHT COTTON FABRICS, PLAIN WEAVE: CLOTH TERMS AND PARTICULARS. W. Middlebrook. Textile Mfr. 83: 188-190 (Apr. 1957). (1851)

Derivations of names of a wide range of woven fabrics from simple plain weave to fancies, with the counts of yarn for warp and weft, ends, picks, and width.

HEAVY COTTON FABRICS, PLAIN WEAVE: CLOTH TERMS AND PARTICULARS. W. Middlebrook. Textile Mfr. 83: 280-282 (June 1957). (1852)

The names, ends and picks, and counts of the heavier qualities of plain-weave cotton fabrics are given. Napped fabrics, dyed specialties, striped and printed types, and industrial cloths are included.





FABRIC TYPES AND CONSTRUCTIONS: MEDIUM PLAIN COTTON FABRICS. W. Middlebrook. Textile Mfr. 83: 233-236 (May 1957). (1853)

THERMAL PROPERTIES OF FABRICS. PART 1. THE EFFECT OF FIBER ARRANGEMENT. H. Bogaty, N. R. S. Hollies and M. Harris (Harris Res. Labs.). Textile Research J. 27: 445-449 (June 1957). (1854)

Examination of the thermal conductivity of fabrics in terms of the fiber conductance and fabric density shows that fabric insulation is determined by fiber arrangement as well as by fabric thickness. For the smooth surfaced fabrics of cotton, nylon, and Orlon studied, the increase in specific conductivity with applied pressure can be attributed mainly to an increase in fabric density, as there is very little change in fiber arrangement. For fuzzy surfaced fabrics of wool or blends containing wool, the change in density with applied pressure is counterbalanced by changes in the fiber arrangement. Accordingly the specific conductivity of wool and wool-type fabrics is relatively insensitive to changes in applied pressure, and this appears to be a direct result of the random arrangement of the fibers in these fabrics. Tables. 15 references.

ALGINATE HESSIAN. L. A. Bashford and others. J. Soc. Dyers Colourists 73: 203-208 (May 1957). (1855)

Alginate hessian scrim suitable for military camouflage use has been fabricated from pigmented continuous-filament yarn using the interlace knitting technique. Resistance to use and weathering was enhanced by chromating the fabric thus obtained and coating with pigmented, chlorinated paraffin wax emulsified in sodium caseinate solution. Photographs. Tables. 4 references.

PATTERNS FOR TUFTED CARPETS. F. Hoeselbarth. Melliand Textilber. (English ed.) 38, No. 2: 110 (1957). (1856)

Patterns produced by varying the tuft length are described and illustrated.

BRITISH TUFTED CARPET INDUSTRY: PROGRESS REPORT. Man-Made Textiles 34: 57-76 (June 1957). (1857)

Character of the trade: its products and prospects, p. 57-62; Tufting machines today, p. 65-69; Dyeing and drying of tufted carpets, p. 70; Backing of tufted carpets with compounded rubber latex, by B. A. Wallace and E. J. P. Reynolds, p. 72-75; Tufted carpets vs. tradition, p. 75-76; Tufted carpet yarn technology: Ardil protein fiber K in blends with Fibro viscose staple, p. 76.

MAKING CARPETS SOIL-RESISTANT. P. Abbenheim. Textile Ind. 121: 97-98 (July 1957). (1858)

Soiling of tufted viscose carpets can be substantially reduced by using a jute fabric backing of low oil content or a latex filling free of mineral oil, by considering the type and amount of spinning oils used in yarn preparation, and by using antisoiling treatments.

PROCESSING AND USE OF CEOLON. K. Baier. Melliand Textilber. (English ed.) 38, No. 2: 144-148 (1957). (1859)

The preparation of Ceolon products (latex-foam on polyurethane basis with no relation to natural or synthetic rubber) and their use in the textile industry (in woven and knitted fabrics) is described and discussed.

NONWOVEN FABRICS: CHEMICAL AND PROCESSING TECHNIQUES. J. T. Taylor (Rohm & Haas Co.). Am. Dyestuff Reptr. 46: P437-P442 (June 17, 1957). (1860)

Data on the manufacture, end use, and potential of many nonwoven fabrics of specific types are presented, including information on fibers, web formation, resin application, drying, bonding agents, and papers composed of synthetic fibers. 8 references.

NONWOVEN GAINS IN EUROPE. K. R. Draw. Modern Textiles Mag. 38: 42, 85 (June 1957). (1861)

Recent European developments are briefly reviewed.

SYNTHETIC FILTER CLOTHS. Textiles in Industry 2: 53-55 (May-June 1957). (1862)

The properties of nylon and Terylene filter fabrics, the various types available, and their applications in industry are discussed.

ARDIL PROTEIN FIBER IN BLANKETS. Imperial Chem. Industries Ltd. Textile Merc. 136: 852-853 (May 17, 1957). (1863)

Recommendations for blend compositions of Ardil/wool and Ardil/wool/viscose blankets, and for their weaving and finishing are briefly covered.

RUBBER IN THE TEXTILE INDUSTRIES. PART 2. C. Moss (Dunlop Rubber Co., Ltd). Fibres 18: 169-172 (May 1957). (1864)

Processes involving the use of latex as an impregnating agent (imitation leather and bonded fabrics, and the Positex and Felastic processes for yarn coating for wear resistance and antishrinking) and processes involving latex spreading (laminated fabrics, looped pile and tufted carpets, and pile fabrics) are briefly surveyed. Diagrams. Photographs.

FATIGUE PROPERTIES OF FIBROUS GLASS-REINFORCED PLASTICS LAMINATES. K. H. Boller. Modern Plastics 34: 163-186, 293 (June 1957). (1865)

Fatigue strength values are presented for six standard and four heat-resistant resin laminates reinforced with glass fibers. Fifty-three S-N curves, representing fatigue data between one thousand and ten million cycles, show the effect on fatigue strength of notching, moisture, fabrics, resins, mean stress levels, angles to warp, and temperatures up to 500° F. Tables. Graphs. 4 references.



PLASTIC LAMINATE HEAT SHIELDS. J. G. Stansbury. Modern Plastics 34: 188-192, 294 (June 1957). (1866)

Highly efficient heat barriers are produced by coating silicone and phenolic fibrous glass laminates with thin reflective coatings. These new heat barriers offer advantages over conventional insulating materials and provide a unique method for the protection of heat-sensitive components. Table.

GLASS-REINFORCED PLASTIC PIPE. J. W. Case. Modern Plastics 34: 120-123, 285-292 (June 1957). (1867)

This survey covers producers, methods of manufacture, properties, potential markets, and limitations. Tables. 11 references.

GLASS YARNS AND FABRICS. D. M. A. Reid (Fibreglass Ltd). Textile Merc. 136: 974-977 (June 7, 1957). (1868)

The preparation and properties of glass yarns, and the properties and end uses of glass fabrics are briefly covered.

TUFTED TEXTILES AND MACHINERY. Am. Textile Reptr. 71: 11-65 (June 13, 1957). (1869)

Tufting machinery improvements add to pattern versatility, p. 11, 19, 23; Improved tufting machinery, by M. M. Beasley, p. 31, 61-62; Tufted textile production continues to show gains, p. 35, 39, 40, 64; Tufted carpet challenge to dryer manufacture, p. 50, 64-65.

TUFTED TEXTILES 1957. Textile Ind. 121: 81-126 (June 1957). (1870)

Tufting from beams, p. 82-86, 114, 118; Tufted carpets can be printed, by P. Abbenheim, p. 87-89, 110-114; Throw rugs, p. 90-94; Custom carpet finishing, p. 98-108; Progress and problems of the industry, p. 120-126.

COLORFUL CONTINENTAL KNITWEAR. W. Davis. Hosiery Times 30: 17-21 (June 1957). (1871)

Patterns in which certain parts of the design are made into ripples or raised portions are described. Certain stitches on one of the needle beds are held while continuing to knit on the other for several courses, after which the binding stitch on the opposite bed is discharged. Photographs. Diagrams.

CHANGING TRENDS IN MILITARY REQUIREMENTS. Am. Dyestuff Reptr. 46: P475-P487 (July 1, 1957). (1872)

New look in military purchasing and distribution of textiles, by V. J. MacLaughlin, p. P475-P478; How atomic warfare has changed army requirements for textiles, by S. J. Kennedy, p. P478-P480; Frontiers in fabrics and finishes, by T. J. Seery, p. P480-P483; Changing trends in requirements for parachute textile materials, by J. H. Ross, p. P483-P487.

APPAREL FIBERS AND THEIR COMMON PROPERTIES. R. W. Moncrieff. Textile Mfr. 83: 237-240 (May 1957). (1873)

The primary criteria for evaluating fibers for clothing (comfort, durability, elegance, safety, and plenty) are discussed, and an appraisal of apparel fibers on the basis of these criteria is made.

CLOTHING: AN ANALYTICAL APPROACH. J. Nüsslein (Farbwerke Hoechst AG). Fibres 18: 176-179 (May 1957); 191-194, 212 (June 1957). (1874)

Part 1. Purpose and origins of clothing. Part 2. Potentialities of man-made and natural fibers for clothing textiles and physiological and hygienic problems connected with them.

WOVEN FABRIC STRUCTURE: FANCY EFFECTS WITH BEDFORD CORD. D. C. Snowden. Man-Made Textiles 33: 42-43 (Jan. 1957). (1875)

WOVEN FABRIC STRUCTURE: FIGURING WITH DICED WEAVES. D. C. Snowden. Man-Made Textiles 33: 42-43, 49 (Feb. 1957). (1876)

WOVEN FABRIC STRUCTURE: WARP AND WEFT RIB DESIGNS. D. C. Snowden. Man-Made Textiles 33: 60-61 (Apr. 1957). (1877)

Principles of patterning in textured or colored woven effects.

WOVEN FABRIC STRUCTURE: CORKSCREW WEAVES. D. C. Snowden. Man-Made Textiles 33: 53 (May 1957). (1878)

WOVEN FABRIC STRUCTURE: DESIGNING PRINCIPLES FOR EXTRA WARP AND WEFT. D. C. Snowden. Man-Made Textiles 34: 50 (June 1957). (1879)

DESIGN IN WOVEN STRUCTURE. PART 53. MODIFIED TWILL WEAVES. D. C. Snowden. Wool Rev. 30: 36-37 (May 1957). (1880)

DESIGN IN WOVEN STRUCTURE. PART 54. DESIGNS FOR LIGHT-WEIGHT WORSTED SUITINGS. D. C. Snowden. Wool Rev. 30: 31, 33 (June 1957). (1881)

## FINISHING AND CHEMICAL PROCESSING D

TEXTILE FINISHES. W. S. Meals (Bradford Dyers' Assoc. Ltd). Textile Wkly. 57: 1400-1404 (May 17, 1957); 1493-1494 (May 24, 1957). (1882)

Finishes which are effective in promoting fabric sales are discussed under the following categories: (1) those making more attractive fabrics (Everglaze and Tutored finishes), (2) service finishes (minimim iron), (3) protective finishes (flame, water, and stain resistant), and (4) nonwoven fabrics.



TEXTILE FINISHING MACHINERY. R. Günther. Spinner u. Weber 74, No. 13: 592-597; No. 14: 630-632; No. 18: 805-806 (1956). In German. Through BCIRA 36: 620 (1956). (1883)

This review of finishing machinery includes descriptions and illustrations of: a high-efficiency rope-washing machine with nozzle arrangement; a wet-fixing and decating machine; the Vibrotex washing machine working on the pressure-wave principle; a chainless mercerizing machine for piece goods; padding and squeezing machines; the Autoprint ten-color printing machine; the Artos universal plane-drier; a pneumatic embossing calender; a five-roller calender (type RK 530 H); various raising machines; and a tentering machine with exhauster.

HOSIERY DYEING AND FINISHING. Sanderson & Co. (Textile Engineers) Ltd. Textile Recorder 75: 79 (June 1957). (1884)

The Dyotherm hosiery dyeing and finishing machine is designed to take stockings straight from seaming or from the knitting machine, and to combine dyeing, resin finishing, and boarding into a single continuous process. It is capable of handling 100 to 120 dozen pairs of stockings per 8 hour shift and can be operated by one man. Photograph.

APPLICATION OF FLUID BEDS TO TEXTILE PROCESSING. F. G. Audas, G. G. Badcock, W. McNabb and J. A. Wilson. Fibres 18: 133-134 (Apr. 1957). Man-Made Textiles 33: 71-72 (May 1957). Skinner's Silk & Rayon Record 31: 510-511 (May 1957). Dyer 117: 759-764 (May 10, 1957). (1885)

The possibilities of using fluid beds for the treatment of textile materials in processes requiring heat treatments such as in drying, dyeing, resin curing, and heat setting are discussed. (BP 773 598).

## CHEMICAL PROCESSES D 1

TRIACETYLATED COTTON. A. J. Hall. Textile Recorder 75: 68-69 (June 1957). (1886)

The swelling and solubility in various solvents, mechanical properties, weathering and heat resistance, and dyeing properties of fully and partially acetylated cotton and cellulose triacetate fibers are compared. Tables. Graphs.

APPLICATION OF PROTEINS TO WOOL TO REDUCE FELTING. PART 2. GELATIN. D. L. C. Jackson. Australian J. Appl. Sci. 8: 130-135 (June 1957). (1887)

The felting of wool has been prevented by impregnating fabric with a gelatin solution, drying the fabric, and hardening the gelatin in a formaldehyde solution. By a suitable choice of hardening conditions the nonshrink effect may be made to withstand prolonged washing and also boiling water. The nonshrink effect is destroyed by boiling in dilute aqueous acid solutions. A weight increase after hardening of 4% is required for effective shrinkproofing for a pretreated fabric. Tables. 2 references.

APPLICATION OF PROTEINS TO WOOL TO REDUCE FELTING. PART 3. A SIMPLIFIED METHOD. D. L. C. Jackson. Australian J. Appl. Sci. 8: 136-143 (June 1957). (1888)

The felting reduction of wool by the use of proteins has been modified by incorporating the protein hardening agent (formaldehyde) in the protein solution, thus avoiding the use of a separate hardening treatment. Although cheaper, this modification is not so effective in reducing felting as a separate hardening treatment. To obtain best results it is necessary to impregnate the wool as soon as possible after the formaldehyde is added to the protein solution. Graphs. Tables. 4 references.

NEW EQUIPMENT AND METHOD FOR LOCATION CLEANING OF COTTON CARPETS. Southern Regional Research Laboratory, 1100 Robert E. Lee Blvd., New Orleans 19, La. Jan. 27, 1956. 2 p. CA-S-1. Free. (1889)

In the location cleaning of cotton carpets, large amounts of pregenerated suds are applied to the carpet through the center of a specially designed rotating brush and are sucked up through a bellows-type vacuum nozzle surrounding the brush.

OPERATING INSTRUCTIONS AND LIST OF EQUIPMENT AND SUPPLIES FOR A NEW METHOD FOR LOCATION CLEANING OF COTTON CARPETS. Southern Regional Research Laboratory, 1100 Robert E. Lee Blvd., New Orleans 19, La. Nov. 20, 1956. 4 p. CA-S-3. Free. (1890)

STAINS IN BLEACHING AND FINISHING PIECE GOODS. Textile Mfr. 83: 248-251 (May 1957). (1891)

The occurrence, prevention, and removal of many types of stains (mainly oil and metallic) during bleaching and finishing are discussed. A list of reagents for stain removal is included. 4 references.

PERMANENT LUSTER EFFECTS ON REGENERATED CELLULOSE. R. Allscher. Melliand Textilber. (English ed.) 38, No. 2: 120-124 (1957). (1892)

The production of permanent luster finishes on regenerated cellulose fabrics has been achieved by the use of new resins which contain bifunctional groups and have a strong tendency to form cross-linkages. These resins are applied under standard finishing conditions and give the treated fabric a water repellent surface. The effects obtained are claimed to be superior to those produced with formaldehyde condensation products based on urea, melamine, and their derivatives.

CHLORINE RETENTION OF RESIN FINISHES. P. J. Fynn (J. C. Penney Co.). Textile Ind. 121: 133-135 (June 1957). (1893)

The serious deterioration of resin finished textiles which occurs in laundering because of the widespread use of hypochlorite bleaches is pointed out. Finishing studies aimed at eliminating this difficulty are discussed. Photographs. 4 references.





YELLOWING OF NYLON. F. H. Steiger (Rohm & Haas Co.). Textile Research J. 27: 459-465 (June 1957). (1894)

Treatment with thermosetting formaldehyde resins increases the tendency of nylon to yellow when heated. The terminal amine groups of nylon are involved in the discoloration. These amine groups can be blocked by reaction with urea under normal textile curing conditions in order to produce a fabric with less tendency to yellow. Tables. Graphs. 4 references.

2,2'-DIHYDROXY 5,5'-DICHLORODIPHENYL METHANE AS A TEXTILE FUNGICIDE. G. R. F. Rose, M. E. Fraser and C. H. Bayley (National Research Council of Canada). Am. Dyestuff Reptr. 46: 385-390 (June 3, 1957). (1895)

Review of the literature and new experimental data on the effect of DDDM on the cellulose substrate under conditions of normal use. As judged by the soil burial procedure, DDDM is an effective fungicide for use with cotton, but its effectiveness is reduced somewhat by water leaching under neutral conditions. Under most conditions of outdoor weathering (excluding sunny dry conditions) the compound, when used in amounts of 0.5-1.0%, should provide a level of protection equal to other organic type textile fungicides currently in use. 9 references.

ROTPROOFING OF JUTE BY TREATMENT WITH SOLUBLE COPPER SALT. W. G. Macmillan (Indian Jute Mills Assoc. Res. Inst.). J. Sci. and Ind. Research (India) 16A: 135-137 (Mar. 1957). (1896)

Considerable rot-resistance is imparted to jute materials by dipping them in a bath of a soluble copper salt, such as cupric sulfate or acetate. The copper apparently combines chemically with certain reactive groups present mainly in the non-cellulosic constituents of the jute. The treatment seems to have practical possibilities. 8 references.

PROTECTION OF JUTE MATERIALS AGAINST MICROBIOLOGICAL AND ACTINIC DETERIORATION. PART 2. EVALUATION OF SOME PROOFING AGENTS AGAINST WEATHER EXPOSURE. W. G. Macmillan, S. N. Basu and P. N. Pal (Indian Jute Mills Assoc.). J. Sci. & Ind. Research (India) 16C: 95-100 (Apr. 1957). (1897)

Various proofing treatments were tested for efficiency against weathering damage involving both actinic and microbiological deterioration. Weather exposure was found to have a drastic effect on fabric strength. Copper treatment, although superior to others against microbiological degradation, proved inadequate against weathering resulting from exposure during wet and dry seasons. Tables. 18 references.

MILDEW AND ROTPROOFING. J. K. Skelly. Textile & Cordage Quart. 7, No. 1: 30-35, 37 (1957). (1898)

The special requirements for mildew and rotproofing treatments are discussed under the four types of available treatments which are based on the use of organic compounds, organic-metallic compounds, inorganic compounds, and chemical modification (including the use of thermosetting resins). 9 references.

ARDIL PROTEIN FIBER: SCOURING AND BLEACHING TECHNIQUES. Imperial Chem. Industries Ltd. Textile Merc. 136: 932-935 (May 31, 1957). (1899)

Desizing, scouring and bleaching methods for Ardil blends are briefly outlined.

TWIST SETTING IMPROVES NYLON CARPET YARNS. E. I. du Pont de Nemours & Co. Textile World 107: 82-83, 166 (July 1957). (1900)

New techniques of treating nylon carpet yarns to give wider texture ranges and to keep yarn from untwisting during wear and cleaning include: planning the yarn construction, relaxing the yarn, and twist setting with boiling water or with pressure steam.

WATER-REPELLENT TREATMENT OF TEXTILES WITH SILICONES: STUDIES ON THE MECHANISMS OF TWO PROCESSES. J. A. C. Watt (Imperial Chem. Industries Ltd). J. Textile Inst. 48: T175-T192 (June 1957). (1901)

The waterproofing of textiles by means of a reactive fluid (polymethylsiloxane with an oil-soluble metallic salt as catalyst) or of a less reactive fluid (polydimethylsiloxane and the water-soluble salt, zirconium oxychloride) is examined. The durabilities of these two finishes to washing and drycleaning are compared, and the mechanisms by which the two processes operate are contrasted. The first owes its effect to the production of an insoluble film around each fiber. The second may operate by absorption of the fluid through the siloxane linkage to the fiber surface, which is covered with deposited zirconium oxide. Graphs. Tables. Photomicrographs. 15 references.

RAIN AND WASH RESISTANT FINISHES ON CORDUROY. P. Hoff. Melliand Textilber. (English ed.) 38, No. 2: 136, 138 (1957). (1902)

Two methods of achieving wash resistant back-filled finishes for corduroy are discussed: the use of soluble starches in combination with condensation products and the use of finishes derived from plastics, e.g. polyvinyl acetate.

ULTRASONIC EMULSIFIERS: SOUND WAVES AT WORK. Sonic Engineering Corp. Textile Bull. 83: 91-92 (June 1957). (1903)

The Rapisonic, Autosonic, Dispersonic, and Minisonic emulsifiers are briefly described.

## DYEING AND PRINTING D 2

DYEING AND PRINTING OF ORLON ACRYLIC FIBER IN BLENDS WITH CELLULOSIC FIBERS. Dyes & Chemicals Tech. Bull. 13: 76-96 (June 1957). (1904)

Information is presented on dye selection, package dyeing, batch and continuous piece goods dyeing, stripping, and printing methods for Orlon/cellulose blends. Tables. Graph. 9 references.



DYEING TYPE 42 ORLON ACRYLIC FIBER. G. E. Woodside (Du Pont Co. of Canada Ltd). Can. Textile J. 74: 63-65 (June 14, 1957). (1905)

The present methods of Orlon tow dyeing, including stock and spool or beam techniques, are briefly considered.

ACRYLIC FIBERS IN DYEING. Dyer 117: 877-881 (May 24, 1957). (1906)

Brief discussion of overcoming the dye resistance of acrylic fibers by modification with a polar monomer, the cuprous ion technique, and the use of basic and disperse dyes. 3 references.

DYEING OF CELLULOSE ACETATE WITH DISPERSE DYES. PART 6. AFFINITIES, HEATS OF DYEING, AND HEATS OF SOLUTION. C. L. Bird and P. Harris (Leeds Univ.). J. Soc. Dyers Colourists 73: 199-202 (May 1957). (1907)

The partition of disperse dyes between water and cellulose acetate was studied by means of desorption experiments, and the results used to calculate values for affinity, heat of dyeing, and entropy change. Aqueous solubilities were determined at different temperatures in order to obtain heats of aqueous solution, and values for fiber saturation and heat of solution in the fiber were calculated. Tables. Graph. 10 references.

DYEING BLENDS OF DACRON POLYESTER FIBER AND CELLULOSE FIBERS. Dyes & Chemicals Tech. Bull. 13: 55-75 (June 1957). (1908)

Emphasis is placed on the proper selection of disperse dyes for the Dacron which, along with vat dyes for the cotton, will produce the desired fastness in yarns and fabrics. The latest application procedures for batch dyeing are reviewed, and up-to-date information on continuous dyeing procedures is presented. Tables. 9 references.

DYES AND DYEING PROCESSES. B. C. M. Dorset. Textile Mfr. 83: 300-304 (June 1957). (1909)

A brief review of some recent British patents on dyes and dyeing techniques: a disperse dye with superior lightfastness for nylon and acetate fibers (BP 758 462), green azoic dyes for cotton (BP 759 353), application of insoluble azoic dyes to cellulose (BP 762 269), modified cuprous ion dyeing process for Orlon and other synthetic fibers (BP 762 044), basic type dyes for polyacrylonitriles (BP 762 397), improving the wet fastness of substantive dyeings (BP 767 152), dyeing level shades on unevenly stretched nylon fabrics (BP 765 080), and khaki dyes for camouflage purposes (BP 760 371).

DYEING CELLULOSIC FIBERS WITH ALCIAN X DYESTUFFS. J. T. Turner. Textile Mfr. 83: 252-254 (May 1957). (1910)

The properties of Alcian X dyestuffs, the preparation of materials for dyeing, and recommended dyeing procedures are briefly reviewed.

DYEING OF CELLULOSIC FIBERS WITH PROCION DYESTUFFS. C. D. Weston. Hexagon Digest No. 25: 3-13 (Mar. 1957). (1911)

The Procion dyestuffs represent a new approach to the dyeing of cellulosic fibers in that they form a covalent chemical bond with the fiber. Their reactivity and their application by the pad-bicarbonate process, batch-wise dyeing methods, and the two-stage padding process are described. Factors influencing the efficiency of the dye-cellulose reaction are discussed. Graphs. 3 references.

DYEABILITY OF ZEFRAN. J. E. Loughlin. Dyestuffs 42: 54-59 (June 1957). (1912)

Summary of results on dyeing studies on Zefran with vat, sulfur, direct cotton, metallized, Naphthol AS, Nacelan, acid, and developed cotton dyes.

DYE AFFINITY IN SPUN RAYON. G. Klotsch. Melliand Textilber. (English ed.) 38, No. 2: 152, 154 (1957). (1913)

Causes of and methods for preventing differences in dye affinity resulting in streakiness of spun rayon piece goods are briefly explained.

STAINING OF EFFECT FIBERS BY DEVELOPED, DIRECT, AND DISPERSE DYES. Dyes & Chemicals Tech. Bull. 13: 97-105 (June 1957). (1914)

Du Pont developed dyes were applied to spun rayon, direct dyes to both spun rayon and to cotton, and disperse dyes to acetate to determine the amount of staining on attached effect fibers. Tables of results give the percentage of dye used and the numerical rating for staining of the dyes applied by standard application procedures.

FIBRO AND FIBROLANE IN THE CARPET TRADE WITH PARTICULAR REFERENCE TO DYEING. R. C. Cheetham (Courtaulds Ltd). J. Soc. Dyers Colourists 73: 189-199 (May 1957). (1915)

The impact of man-made fibers on the carpet trade is discussed, and the desirable attributes of a carpet fiber are suggested. The properties and performance of viscose rayon staple (Fibro) and regenerated protein staple (Fibrolane) are considered in detail, indicating their relative advantages and disadvantages. Blends and spun-dyed staple are discussed. The scouring and the dyeing of Fibro and/or Fibrolane blends are considered with detailed methods and selections of dyes. Photomicrographs. Tables. Graphs. 11 references.

DYEING LOW WOOLEN PIECES. Textile Merc. 136: 841-843 (May 17, 1957); 895-896 (May 24, 1957); 939-940 (May 31, 1957). (1916)

Part 1. Practical aspects of the acid milling, scouring, and dyeing of low woolen piece goods such as beavers, meltons, velours, naps, etc. Part 2. Causes of unlevelness, streakiness, and unsatisfactory masking, and methods for avoiding these defects. Part 3. Stripping procedures for removing self-color on the animal fiber before redyeing the goods to a fairly light shade. Methods of achieving levelness using direct cotton dyestuffs.



SEQUESTERING AGENTS WITH SPECIAL REFERENCE TO DYEING. L. Pitts. Textile Mfr. 83: 310-312 (June 1957). (1917)

The use of sequestering agents, particularly Edta (ethylenediamine tetraacetic acid), is discussed. The agent inactivates the calcium salts in scouring baths and ensures goods that are free from lime soap contamination, removes any metal ions contaminating peroxide bleach liquor, and eliminates metal ion impurities from the dye-bath. Certain precautions must be taken in cases where metallized dyes are to be used, and the author discusses (1) the effect of sequestering agents on metallized dyestuffs and (2) the effect of contaminating metal ions on the dyestuff and the corrective action of the sequestering agent.

PIGMENT DYEING BY THE PAD-JIG PROCESS. R. Vogel. Melliand Textilber. (English ed.) 38, No. 2: 124-128 (1957). (1918)

The various methods of pigment dyeing, especially the latest developments, are reviewed. The Krefeld pad-jig is described in detail. Photographs. Diagrams.

DYEING PEBBLE PILE FABRICS. Dyer 117: 917-918 (June 7, 1957); 995-998 (June 21, 1957). (1919)

Part 1. Multi-bath process for plain wool pebble fabric containing no synthetic fibers is described. Part 2. Dyeing mixed fiber pile fabrics. Acid felting, union dyes, acid dyes, pressure steaming, block printing and brush printing are discussed.

STAMPING MACHINE FOR LOOSE-FIBER DYEHOUSES. B. Proessl. Melliand Textilber. (English ed.) 38, No. 2: 140-144 (1957). (1920)

Construction and operation of the Augsberger stamping machine for packing loose fibers into sacks and dye vessels. Photographs.

HISTORICAL NOTES. PART 13. LO-KAO: THE STORY OF CHINESE GREEN. S. M. Edelstein (Dexter Chemical Corp.). Am. Dyestuff Reptr. 46: 433-436 (June 17, 1957). (1921)

MODERN VAT DYES. J. L. Waldo. Dyestuffs 42: 47-53 (June 1957). (1922)

This brief review contains information on history of vat dye development, application methods, and dye conditioning techniques.

VAT DYE PRINTING WITHOUT STARCH. Am. Cyanamid Co. Modern Textiles Mag. 38: 50 (June 1957). (1923)

This printing process uses a low-cost hydrocarbon solvent emulsified into a water solution of the emulsifying agent, emulsion stabilizer, alkali carbonates, sodium formaldehyde sulfoxylate, and humectant. It is claimed to cost less and to yield better color values and brighter shades.

APPLICATION OF p-AMINOAZOBENZENE IN TEXTILE PRINTING WITH ANILINE BLACK. G. Aronovici. Ind. textila (Bucharest) 12: 555-558 (1956). Through Chem. Abstracts 51: 9164e (1957). (1924)

In order to reduce the degradation of the textile fibers when Aniline Black is used, the following new formulation has been developed with p-aminoazobenzene which neutralizes the harmful effects of the mineral acids liberated during vaporization: aniline oil 46, HCl 35, sodium nitrite 1, water 168, agglutinant 700, K chlorate 15, K ferrocyanate 35 g. Also when p-aminoazobenzene is used a deeper color is obtained owing to oxidation products of p-aminoazobenzene.

VAT PRINTS TREATED WITH SODIUM SULFOXYLATE FORMALDEHYDE. P. J. Wood (Royce Chem. Co.). Textile Age 21: 20 (June 1957). (1925)

Aftertreatment precautions for vat-printed or discharged goods treated with sodium sulfoxylate formaldehyde.

## MECHANICAL PROCESSES D 3

FABRIC SETTING MACHINE. Bates Textile Machine Co. (Leicester) Ltd. Textile Wkly. 57: 1627 (June 7, 1957). (1926)

On the Bates model K the thermoplastic fabric is held against the hot surface of a rotating bowl by specially designed heat-resistant endless belt blankets. The machine has two sets of gearing: one provides a pressing effect and the other gives a friction effect. This latter process imparts a sheen and smoothness to the fabric during the setting cycle which is desirable for ribbons and certain other types of fabric.

DECATING WOVEN AND KNITTED FABRICS. R. Ripp. Melliand Textilber. (English ed.) 38, No. 2: 130-136 (1957). (1927)

Differences between the various methods of decating and the advantages of the Universal-Welt-Dekatur (Ketting & Braun) for press-luster decating and the Planet automatic for finish decating are described in this survey. Photographs. Diagrams.

RAISING OF TEXTILE FABRICS. C. S. Whewell. Textile Mfr. 83: 296 (June 1957). (1928)

The effects of fabric composition, pH of cloth, and presence of lubricants on napping are briefly discussed. Tables.

## DRYING D 4

MODERN TEXTILE DRYER DESIGN FACTORS OF INTEREST TO PLANT ENGINEERS. L. Walter. Melliand Textilber. (English ed.) 38, No. 2: 154, 156 (1957). (1929)

Advantages of recirculation, low exhaust temperature benefits, humidity control of hot air dryers, temperature control, combined temperature and humidity control, and zone drying are discussed.





# TESTING AND MEASUREMENT E

INFRARED SPECTROPHOTOMETRIC PROCEDURE FOR ANALYSIS OF CELLULOSE AND MODIFIED CELLULOSE. R. T. O'Conner, E. F. DuPfe and E. R. McCall (Southern Regional Res. Lab.). Anal. Chem. 29: 998-1005 (July 1957). (1930)

The potassium bromide disk technique can be used for rapid, simple, and reproducible measurement of the infrared spectra of cotton fibers, yarns, and fabrics. Applications of the procedure show that chemical modification can be detected, the character of the modification identified, and the extent of treatment quantitatively estimated. Preliminary experiments indicate that considerable information can be obtained of interest to studies of the oxidation of cotton, to determinations of position of modifying substituents within the cellulose molecule, and to investigations of crystallinity and cross linkage. Table. Graphs. 25 references.

1957 INSTRUMENTATION SURVEY. Fibres 18: 157-165 (May 1957). (1931)

## FIBERS E 1

PLASTIC AND ELASTIC DEFORMATION OF FIBERS. A. J. Cruise. Fibres 18: 149-152 (May 1957). (1932)

The pressure technique described is a tool for investigating the qualitative and quantitative aspects of fiber structure. It allows measurements of plasticity and elasticity to be made on a micro scale using individual fibers, and it permits fibers to be cut into portions, each portion to be subjected to different treatments. The effects of such treatments may be expressed as changes in elastic or plastic deformation, and it is considered that this plastic and elastic deformation derives from the molecular structure of the material. Photomicrographs. 3 references.

INTERFERENCE MICROSCOPE IN FIBER RESEARCH. PART 1. INITIAL STUDIES ON RAYON, COTTON, WOOL AND SYNTHETIC FIBERS. A. N. J. Heyn (Clemson Coll.). Textile Research J. 27: 449-458 (June 1957). (1933)

The Baker interference microscope made it possible to reveal and distinguish fine details of fiber structure and to recognize even minute differences in refractive index by color contrast. It is furthermore possible to determine quantitatively the refractive index of these details. The theoretical background is considered and the technique employed described. Typical examples with different fibers are shown. Diagrams. Photomicrographs (in color). Table. 21 references.

X-RAY IN FIBER RESEARCH. V. W. Palen (North Am. Philips Co.). Fibres 18: 154-156 (May 1957). (1934)

The application of X-ray diffraction techniques at the Aummit, N. J., Research Laboratories of the Celanese Corp. in developing new synthetic fibers is briefly described. Graphs. X-ray diagrams.

STRESS-RELAXATION METHOD OF DETERMINING THE ACCESSIBILITY OF FIBERS TO HYDROCHLORIC ACID. L. Valentine (Leeds Univ.). (Letter to the editor). Reply: J. C. Whitwell and T. Lemiszka (Princeton Univ.). Textile Research J. 27: 498-500 (June 1957). (1935)

WORK INTEGRATOR FOR USE WITH THE CAMBRIDGE FIBER EXTENSOMETER. M. M. Cross and G. Grimshaw. Hexagon Digest No. 25: 24-28 (Mar. 1957). (1936)

The operation of an integrator device for computing work recovery from load extension curves obtained with the Cambridge fiber extensometer is described. Graphs. Photograph.

NOMOGRAPH FOR EXTENDING THE RANGE OF THE AREALOMETER. J. D. Tallant (Southern Regional Res. Lab.). Textile Research J. 27: 436-438 (June 1957). (1937)

An analysis of the operation of the Arealometer has shown that there are relationships between air-flow resistance and specimen size which can be used to extend its range to fine cottons not presently measureable and to determine surface properties over a range of compressions. The mathematical and physical basis for these relationships is developed and their application discussed. Nomograph. 3 references.

LABORATORY TESTS FOR FIBER QUALITY: AIRFLOW METHODS FOR WOOL AND COTTON. PART 2. A. T. C. Robinson. Texture 4: 61-67 (June 1957). (1938)

The use of the micronaire (wool and cotton) and the Arealometer, Speedar, and Port-Ar (cotton) for fiber fineness testing is described and illustrated. 7 references.

## YARNS E 2

RESISTANCE OF SIZED YARNS TO ABRASION. T. Radhakrishnan, P. C. Mehta and B. R. Shelat (Ahmedabad Textile Ind. Res. Assoc.). Textile Research J. 27: 439-444 (June 1957). (1939)

Laboratory tests used for assessing the weavability of sized warp yarns are reviewed. Data are presented on the tensile properties of sized yarns before and after they have been subjected to sustained abrasion in the "dummy loom" (in which the elements of abrasion, flexure, and cyclic loading are combined). A study of these properties has confirmed the hypothesis that the effect of this type of abrasion is to remove the size film at varying rates from different parts of the yarn. Some data are presented which suggest that the transient abrasive action of actual looms on sized warp yarns is similar in kind though much less severe in degree. Graphs. 15 references.

HOW TO MOUNT SYNTHETICS YARNS FOR BREAK TESTS. H. A. Mereness (Inst. of Textile Tech.). Textile World 107: 142 (July 1957). (1940)



PREDICTION OF CARDED COTTON YARN SKEIN STRENGTH. J. F. Bogdan. Textile Forum 14: 3-34 (Oct. 1956). (1941)

Tables for estimating the skein break of carded cotton yarns in a range of yarn numbers from 6s to 50s and a range of cotton system twist multipliers from 2.5 to 5.5 for a given stock if the yarn number, twist multiplier, and the skein break of one yarn spun from that stock is known.

MECHANISM AND USES OF ELECTRONIC REGULARIMETERS WITH CAPACITY VARIATION. J. Grignet. Ann. Sci. Text. Belges No. 3: 78-138 (Sept. 1956). In French. Through BCIRA 37: 83 (1957). (1942)

Photoelectric and capacitance regularity testers are reviewed, with special reference to the mechanism of the Zellweger-Uster and the Fielden instruments and their uses in industrial and laboratory control.

UNIFORMITY ANALYSIS OF YARNS, ROVINGS, AND SLIVERS USING BETA RADIATION. P. R. Ewald and C. B. Landstreet. Textile Research J. 27: 493-497 (June 1957). (1943)

A statistical type of instrument is described which makes use of the unique properties of beta radiation in studying the uniformity of cottons during processing into yarn. Photographs. Graphs. 8 references.

USTER STANDARDS 1957 FOR COTTON SPINNING. W. Wirth. Melliand Textilber. (English ed.) 38, No. 2: 102-106 (1957). (1944)

The development and calculation of the Uster standards 1957 (Zellweger AG, Uster, Switzerland) are described and their use in quality evaluation of yarn and production control is discussed. Graphs.

SACO-LOWELL LAP METER RECORD FOR PICKER LAP STANDARDS. Saco-Lowell Bull. 29: 48-49 (Apr. 1957). (1945)

A simple one-page form records all data, calculations, and results for one complete picker lap test.

## FABRICS E 3

MECHANICAL TESTING OF WASHFASTNESS. Wullschleger and Schwarz. Textile Wkly. 57: 1630 (June 7, 1957). (1946)

Features of the Prexa machine for washfastness and milling tests designed to meet International Standards Organization standards. The machine can also be used to test the fastness of metallized textiles to friction in the bath, as well as for abrasion and felting tests on knitted fabrics. Photograph.

DETERMINING FABRIC STRENGTH BY COMPARING FABRICS. B. L. Whittier (North Carolina State Coll.). Textile World 107: 146-147 (June 1957). (1947)

Formulas and tables for estimating fabric strength factor based on warp, filling, and total fabric strength in relation to weight.

AUTOMATION IN FAULT-MARKING. Johannes Menschner Textilmaschinenfabrik. Textile Wkly. 57: 1470 (May 24, 1957). (1948)

The Menschner fault-marking apparatus FM2 knots the marking strings automatically in the fabric selvage, the color of the string corresponding to the type of fault. The unit can be built on any existing inspection machine, and the knotting of the string is done by merely pushing a button. A recording apparatus indicates on a small chart the location and nature of the fault. Photographs.

## OTHER E 4

GRAPHICAL AIDS TO QUANTITATIVE REFLECTANCE SPECTROPHOTOMETRY OF DYEINGS. A. Darbey (Eastern Color & Chemical Co.). Am. Dyestuff Reptr. 46: 465-471 (July 1, 1957). (1949)

Several graphical procedures for quantitative reflectance spectrophotometry of dyeings are presented which should be useful supplementary methods to other graphical systems and to the usual methods of computation. The procedures should be of value in dyeing process control and dyehouse laboratory procedures and test methods. Graphs. Tables. 20 references.

XENOTEST WEATHERING DEVICE. Quarzlampen GmbH. Textile Wkly. 57: 1706 (June 14, 1957). (1950)

The Xenotest, Model PL 394, is suitable for testing the effects of weather on textiles, as well as for testing lightfastness. Features are described.

LIGHTFASTNESS TESTER TYPE SUNTEST R-1041. Melliand Textilber. (English ed.) 38, No. 2: 138, 140 (1957). (1951)

Features and advantages of the Suntest apparatus, for laboratory evaluation of the lightfastness of dyestuffs and photochemical degradation, are discussed. Comparative exposure tests with the Suntest apparatus and the Fade-Ometer are tabulated.

LIGHTFASTNESS OF DYED FIBERS: A STATISTICAL STUDY. C. H. Giles. J. Soc. Dyers Colourists 73: 127-160 (Apr. 1957). (1952)

About 16,000 published commercial lightfastness assessments were examined statistically to determine whether the principles discovered in the laboratory actually apply to all dyes on all fibers. Some general rules, applying to most dyes and fibers, are listed. The effects are considered to be the result mainly of differences in the physical form of the dyes in the fibers and of differences in the fibers themselves. Graphs. Tables. 63 references.

TESTING LIGHTFASTNESS RESISTANCE OF FIBERS AND YARNS. A. Zart. Reyon Zellwolle Chemiefasern 34, No. 10: 704-706 (1956). In German. Through BCIRA 36: 725 (1956). (1953)

Proposed testing procedure for quantitative determination of the damage caused by daylight on fibers or yarns exposed through glass.



INTERNATIONAL DAYLIGHT FASTNESS TEST: CRITICAL APPRAISAL. K. McLaren (Imp. Chem. Ind. Ltd). J. Soc. Dyers Colourists 73: 121-127 (Apr. 1957). (1954)

The international daylight fastness test was critically examined to determine its reproducibility and reliability. Only the effective humidity was found to cause variations in assessment and this variation can be eliminated only at the expense of reliability. However, the reproducibility of the method is good for the majority of fabrics, whose sensitivity to humidity is low. The test is a reliable guide to the expected resistance to fading occurring during use, even of sensitive materials, providing it is carried out in the same country as that in which the fabric is to be used and that the fabric does not become wetted during use. Graphs. Tables. 13 references.

DETERMINING MOISTURE CONTENT WITH THE MARCUSSON APPARATUS. B. Mihalik and I. Asboth. Textil-Praxis 11, No. 9: 897-900 (1956). In German. Through BCIRA 36: 664 (1956). (1955)

The apparatus consists of a round flask, a Marcusson attachment, and a Liebig condenser. It was developed for testing oil, and has been modified for textiles. Preparation of the apparatus and material and the method of testing are described. A formula is given for calculating the moisture content. A table shows the values for wool, rayon staple, wool yarn, spun rayon yarn, cotton yarn, and worsted fabric obtained by conditioning and by distillation in this apparatus.

THERMOMETERS AND PYROMETERS. L. Walter. Knitter 21: 77-80 (Apr. 1957); Textile Bull. 83: 88-94 (Apr. 1957). (1956)

Recommendations on selection, installation, and maintenance. Photographs. Diagram.

STATIC ELECTRICITY IN PROCESSING MAN-MADE FIBERS. E. Kirschner. Melliand Textilber. 37, No. 8: 892-895 (1956). In German. Through BCIRA 36: 583 (1956). (1957)

Methods for measuring electrostatic charges on the stationary and moving man-made fibers are discussed, with special reference to the Schwenkhagen field intensity tester, type FMV. By knowing the interrelationship of the factors affecting the electrostatic charge, it is possible to utilize certain advantages during processing. The study was confined to cards and drawing frames, where electrostatic charges can be particularly disturbing.

EVALUATION OF WHITENING EFFICIENCY OF FLUORESCENT WHITENING AGENTS. E. Allen (Am. Cyanamid Co.). Am. Dyestuff Reptr. 46: 425-432 (June 17, 1957). (1958)

Fluorescent whitening agents may be evaluated by several methods: visual examination of the dyed cloth in daylight, visual examination under ultraviolet radiation, and examination by means of a fluorimeter. The advantages and disadvantages of each of these methods are discussed. A method of redesigning the fluorimeter so that it will not require a correction factor for this type of comparison is described. Tables. Graphs. 3 references.

HOW A NEW DYE IS EVALUATED TO DECIDE IF IT IS WORTH MARKETING. A. F. Klein (Am. Cyanamid Co.). Am. Dyestuff Reptr. 46: P489-P491 (July 1, 1957). (1959)

The procedure used by the American Cyanamid Company in testing a new dye to determine its commercial acceptance in the field or fields of application for which it was designed is described.

USTER MOISTURE METER. W. Burkhart. Melliand Textilber. 37, No. 10: 1166 (1956). In German. Through BCIRA 36: 724 (1956). (1960)

This apparatus measures the moisture equilibrium state of the material tested over the range of 10 to 90% r. h. It requires up to 1 min. for adjustment, and has an absolute accuracy within ± 2%.

ASSAY OF SODIUM HYDROSULFITE. P. J. Wood and others. Am. Dyestuff Reptr. 46: P443-P447 (June 17, 1957). (1961)

The various analytical methods for sodium hydrosulfite were reviewed and the ammoniacal copper method, the iodine method, and the Rubine R method were tested and found to give reliable and essentially comparable results. The iodine method is recommended because of its simplicity. The ammoniacal copper and Rubine R methods should be used in rare cases where the hydrosulfite is known or suspected to contain significant amounts of thiosulfate, sulfide, or other oxidizable impurity not inactivated by formaldehyde.

DETERMINATION OF HYDROGEN PEROXIDE IN BLEACH BATHS. AATCC Committee on Bleaching. Am. Dyestuff Reptr. 46: P397 (June 3, 1957). (1962)

An AATCC-approved method for the determination of hydrogen peroxide is presented.

## INDUSTRIAL ENGINEERING F

RZ SYSTEM. W. Gross. Textil-Praxis 11, No. 9: 931-932 (1956). In German. Through BCIRA 36: 673 (1956). (1963)

The control system described makes it possible to determine the production of a full-time worker, in spinning or in weaving, from appropriate efficiency diagrams. The two comparative values in this system are: the efficiency factor (=actual efficiency/theoretical efficiency) and the average wage.

MANAGEMENT PROBLEMS IN COMPETITIVE INDUSTRY. PART 2. STREAMLINING AN ORGANIZATION FOR SPEEDIER MANAGEMENT DECISION. W. F. Dunnett. Textile Merc. 136: 754-761 (May 3, 1957). (1964)

Discusses the positions of authority and responsibility of executives in the commercial, financial, administrative, production, and research and development departments from a viewpoint of effective organization.





PRODUCTION PLANNING AND THE ELECTRONIC COMPUTER. R. B. Baggett (Job White & Sons Ltd). Hosiery Trade J. 64: 80-82 (May 1957). (1965)

Brief description of the application of an electronic computer to stock, production, and fabric quality control in a British knitwear firm.

SCALE MODELS IN PLANNING TEXTILE MANUFACTURE. L. Walter. Textile Recorder 75: 67, 66 (May 1957). (1966)

The advantages and savings possible with the use of three-dimensional scale models for location of new machinery and auxiliary plant equipment or for planning a new mill are summarized. Photograph.

AN EFFECTIVE WASTE CONTROL PROGRAM. Textile Bull. 83: 49-53 (May 1957). (1967)

Recommendations based on practical experience are given for establishing an effective waste control system.

## MACHINERY AND MAINTENANCE F 1

HEAT ECONOMY IN TEXTILE PROCESSING. L. Walter. Textile Bull. 83: 85-86 (May 1957). (1968)

Sources of inefficiency are pointed out and steps for correcting heat waste are suggested.

TRAINING SPINNING FIXERS. M. Chagro. Textile Ind. 121: 125-128 (Feb. 1957); 116-118 (Apr. 1957); 147-149 (June 1957). (1969)

A six-weeks training program under an experienced fixer is outlined. Photographs. Diagrams.

FANS AND CONDENSERS IN THE TEXTILE INDUSTRY. D. McConnell. Textile Ind. 121: 79-85, 88 (July 1957). (1970)

Information on choice, application, testing, and maintenance of fans and condensers is given. Tables. Photographs. Diagrams. Flow charts.

PHILADELPHIA MATERIALS HANDLING SHOW PROMOTES AUTOMATION. Textile World 107: 76-81, 178-182 (July 1957). (1971)

Items of textile interest are briefly described and illustrated.

NEEDLE BEARINGS IN THE TEXTILE INDUSTRY. Torrington Co. Ltd. Textile Wkly. 57: 811-812 (Mar. 22, 1957); 1029-1030, 1062 (Apr. 12, 1957). (1972)

Torrington needle bearings and their textile applications are briefly described. In part 2 a new technique on spindles and rollers is discussed.

ELECTRICAL DRIVES: IMPORTANCE OF THE TORSIONAL-MOMENT/NUMBER OF REVOLUTIONS CURVE. W. Schobbe. Melliand Textilber. 37, No. 9: 1096-1102 (1956). In German. Through BCIRA 36: 635 (1956). (1973)

Various constructions suitable, in particular, for finishing machines are described to show that for automatic control the number of revolutions must be (in all speed ranges) practically independent of the torsional-moment fluctuations. The various torsional-moment/number of revolutions curves also show the possible performance of electric drives in the individual speed ranges.

AUTOMATIC CONTROL METHODS OF ELECTRICAL SPEED DRIVES. L. Walter. Textile Bull. 83: 93-96 (June 1957). (1974)

Requirements for various types of motors for specific applications and illustrations of nine synchronous drive systems. Diagrams.

DISULFITE LUBRICANTS FOR TEXTILE MACHINERY. K. Demus and W. Braun. Melliand Textilber. 37, No. 9: 1093-1096 (1956). In German. Through BCIRA 36: 635 (1956). (1975)

Reference is made, in particular, to the applicability of molybdenum disulfite lubricants to textile machinery. Examples are given to show that the use of these lubricants is particularly justified for machine parts subjected to high wear and tear, and because of the reduced number of oilings necessary and the increased cleanliness.

MAINTENANCE FOR ELECTRICAL SYSTEMS. H. E. Heddesheimer (General Electric Co.). Textile World 107: 104-105 (June 1957). (1976)

List of inspections and preventive-maintenance techniques for reducing the number of failures in a plant's power supply system.

## WASTE DISPOSAL F 2

STREAM POLLUTION REDUCTION PROGRAM FOR FINISHING PLANT. Hohokus Bleachery. Textile Ind. 121: 71-73 (July 1957). (1977)

A waste treatment plant and program designed for Hohokus Bleachery is described. Diagram. Photographs.

B.O.D. TEST IN TEXTILE MILL WASTE PROBLEMS. H. Heukelekian. Textile Ind. 121: 74-77, 117-122 (July 1957). (1978)

General background discussion of the bases and principles of the biochemical oxygen demand test, and its modification and limitations for industrial application. Photographs. Graph. 13 references.

## QUALITY CONTROL F 3

STATISTICAL QUALITY CONTROL ON THE MARCH IN INDIAN INDUSTRIES TO CONTROL QUALITY STATISTICALLY. S. Vaswani, B. K. Raja Rao and H. Sahasranaman. Bombay, Indian Statistical Institute, 1955. 79 p. (1979)

Textile examples are taken from the following areas of control: stores consumption in weave room, vibration in bobbins, tension weights and settings in winding, speed tests, lap weights, machine efficiency, waste, and work sampling.

TEXTILE QUALITY CONTROL PAPERS, V.4, 1957. D. S. Hamby, ed. American Society for Quality Control, Room 6197 Plankinton Building, 161 West Wisconsin Avenue, Milwaukee 3, Wisconsin. 1957. 108 p. $5.00. (1980)

Collection of papers presented at meetings of the Textile Division, American Society for Quality Control, during the year 1956-57: Integrated quality control: from weaving to sewing, by F. Golden, p. 1-5; Cotton merchandising changes with consumer demands, by E. E. Berkley, p. 6-13; Managing the quality control function, by R. G. Mitchell, p. 14-18; Variations flow analysis, by N. L. Enrick, p. 19-22; Application of statistics in a spinning laboratory, by C. B. Landstreet, p. 23-27; Statistical instrumentation of a spinning laboratory, by P. R. Ewald, p. 28-33; How to sample profitably, by D. A. Gardiner, p. 34-41; How analysis of variance works, by T. R. Bainbridge, p. 42-53; Designed experiment to evaluate two yarn lubricants, by H. M. Hill and D. Wheeler, p. 54-57; Practical application of operations research, by R. W. Lindsay, p. 57-63; Modern advances in the use of the range; by R. S. Bingham, Jr., p. 64-72; Quality control of fabrics and problems involved in manufacturing cloth, by K. V. Chase, p. 73-76; Types of defects found in cotton piece goods and the inspection system used at the Millville Mfg. Co., by L. B. Cook, p. 77-82; Common defects found in fabrics manufactured from man-made fibers, by J. P. Acquaviva, p. 83-84; Recommended standards of measurement to be applied in quality fabric control, by R. A. Jenkins and E. F. Lowe, p. 85-86; Enro Shirt Company, Inc.: quality control of fabrics and problems involved in manufacturing garments, by G. W. Edwards, p. 87-91; Types of defects and their control in shirts manufactured of blended fabrics, by M. R. Woodard, p. 92-95; Quality problems of automotive fabrics from the producer's point of view, by E. C. Atwell, p. 96-99; Quality requirements of automotive fabrics, by W. R. Strother, p. 100-105.

# SCIENCES G

## CHEMISTRY G 1

PROBLEMS OF RESEARCH IN THE CHEMISTRY OF JUTE CELLULOSE. W. G. MacMillan. Indian Textile J. 67: 338-343 (Mar. 1957). (1981)

The chemistry of cellulose and the other constituents of jute is discussed, and relation to commercial problems of bleaching, yellowing, softening, dyeing, chemical modification, and rot resistance briefly outlined. 11 references.

BROWN STAIN FORMED ON WET CELLULOSE. H. R. Ambler and C. F. Finney. (Letter to the editor). Nature 179: 1141 (June 1, 1957). (1982)

The mechanism of "brown stain" formation on wet cellulosic materials, e.g. filter paper, is in part the formation of a degradation product of cellulose by oxidation at the wet-dry boundary and in part the capillary concentration of the same or a similar product already in the paper. The reason that this very common effect with wet paper or cotton has not been remarked upon more often may be because the stain looks like a rust stain and is often found in material liable to wetting with water which may contain iron. 4 references.

MODERN DETERGENTS. F. C. Harwood. Textile Mfr. 83: 255-257 (May 1957). (1983)

Following a brief history of synthetic detergent development, the various types of detergents, as well as difficulties associated with their use, are discussed.

23rd ANNUAL REVIEW OF THE LITERATURE ON FATS, OILS, AND DETERGENTS. M. M. Piskur (Swift & Co.). J. Am. Oil Chemists Soc. 34: 222-239 (May 1957). (1984)

23rd ANNUAL REVIEW OF THE LITERATURE ON FATS, OILS, AND DETERGENTS. PART 2. M. M. Piskur. J. Am. Oil Chemists Soc. 34: 264-293 (June 1957). (1985)

MOLECULAR ORGANIZATION IN KERATINS. PART 1. INTRODUCTORY SURVEY. R. D. B. Fraser and T. P. MacRae (Wool Textile Res. Lab., Australia). Textile Research J. 27: 379-384 (May 1957). (1986)

The present state of knowledge of the molecular organization and fine histological detail in keratins is reviewed. Methods of determining crystallinity are critically assessed, and the possible bearing of crystalline content on the occurrence of a structural unit in keratins is discussed. 33 references.

MOLECULAR ORIENTATION AND CONFIGURATION IN KERATINS. R. D. B. Fraser. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B130-B138. (1987)

Some applications of infrared spectroscopy to the study of molecular orientation and configuration in wool keratins are described. Graphs. 19 references.

KINETICS OF WOOL CHLORINATION. R. W. C. Broadbank, A. Datyner and S. R. Robinson. (Letter to the editor). J. Soc. Dyers Colourists 73: 208-209 (May 1957). (1988)

It is suggested that vortex formation at stirrer speeds of 300 to 400 rpm may have some bearing on the change in kinetics observed in wool fabric chlorination. Photographs. 2 references.



PHOTOCHEMICAL DEGRADATION OF FIBERS. A. Agster and O. Holzinger. Textil-Praxis 11, No. 8: 825-828 (1956). In German. Through BCIRA 36: 596 (1956). (1989)

Experiments described were carried out to find out whether the increased photodegradation of fibers delustered during spinning is due to the titanium-dioxide catalyzed peroxide decomposition or only to the conversion of the atmospheric oxygen into atomic oxygen, or to both. Results show that the decomposition phenomena occur even in the neighborhood of the irradiated fibers; this indicates that part of the hydrogen peroxide formed volatilizes, and the vapors are sufficient to cause damage to the fibers.

ROLE OF ABNORMAL LINKAGES IN POLYMER DEGRADATION REACTIONS. N. Grassie. Chemistry & Industry No. 18: 537-542 (May 4, 1957). (1990)

The role of abnormal linkages in polymer degradation reactions, how these structural abnormalities arise, and what their general chemical nature is liable to be are illustrated by studies on the thermal degradation of polymethyl methacrylate, polystyrene, polymethacrylonitrile, and polyethylene. Table. Graphs. 10 references.

INFRARED SPECTRUM AND CRYSTAL STRUCTURE OF CELLULOSE. M. Tsuboi. J. Polymer Sci. 25: 159-171 (July 1957). (1991)

The infrared absorption spectra of oriented cellulose fibers (natural and delignified flax and ramie and amorphous cellulose prepared from cotton) using polarized radiation were studied. The results support the previously postulated crystal structure of cellulose with a little modification, and also lead to assignments of some of the observed bands. The results indicate the arrangement of the hydrogen-bonded OH groups, which is not directly known by other methods. The experimental results and their interpretations are described. Tables. Graphs. 14 references.

INFRARED SPECTRA OF FIBROUS PROTEINS IN THE 2$\mu$ REGION. R. D. B. Fraser. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B120-B129. (1992)

Equations relating the degree of molecular orientation in a protein fiber with transition-moment direction and dichroic ratio are derived, and the assignment of the transition-moment direction associated with certain vibrations is considered. 21 references.

EFFECT OF STRONG SWELLING AGENTS ON THE INFRARED ABSORPTION SPECTRA OF NYLON. D. S. Barmby and G. King. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B139-B150. (1993)

The effect of antimony trichloride, phenol, and formic acid, on the NH and CO infrared absorption bands of silk and nylon was examined. Graphs. 13 references.

DIFFUSION OF WATER VAPOR THROUGH LAMINAE WITH PARTICULAR REFERENCE TO TEXTILE FABRICS. L. E. MacHattie, A. C. Goodings and L. H. Turl. (Letter to the editor). Textile Research J. 27: 418 (May 1957). (1994)

Correction to paper of this title in Textile Research J. 25: 197 (1955).

## PHYSICS G 2

ATOMIC ENERGY AND THE TEXTILE RESEARCHER. R. G. H. Siu. Am. Dyestuff Reptr. 46: 391-396 (June 3, 1957). (1995)

A review of the applications and future possibilities of atomic energy in textile research and development. 68 references.

APPLICATIONS OF RADIOACTIVITY IN THE TEXTILE INDUSTRY I A. Berstein (Tracerlab, Inc.) Am. Dyestuff Reptr. 46: P399-P404 (June 3, 1957). (1996)

This paper presents a summary of past applications of radioactivity to problems in the textile industry and suggests particularly promising areas of work for future investigations. Applications of radioactivity in laboratory investigations and in plant process control are discussed. A brief description of the basic nature and properties of radioactive materials is presented. 39 references.

## BIOLOGY G 3

INSECT PROBLEMS IN TEXTILE RESEARCH. E. Laibach. Melliand Textilber. 37, No. 10: 1220-1225 (1956). In German. Through BCIRA 36: 724 (1956). (1997)

Insects causing damage to vegetable, animal, and synthetic fibers are reviewed and it is pointed out that no textile finish gives total protection against insect attack. In the case of keratin fibers (wool), which are a food source for insects, only the Eulan treatment is capable of providing a permanent protection against moths.

TEXTILE PRESERVATION: NEW DEVELOPMENTS. P. F. Klens and W. J. Stewart (Heyden Chem. Corp.). Am. Dyestuff Reptr. 46: 346-350 (May 20, 1957). (1998)

The more frequently employed textile fungicides and the areas in which they are used are summarized, following a detailed discussion of the use of solubilized copper cupferron and synergistic zinc mixtures, with emphasis on the comparative cost and performance of treatment. Tables. 5 references.

## MISCELLANY H

DICTIONARY OF TERMS USED IN LAUNDERING AND DRYCLEANING TEXTILES. Am. Fabrics No. 40: 66-70 (Spring 1957). (1999)



HIGHLIGHTS OF THE 43d KNITTING ARTS EXHIBITION. Knitter 21: 33-62 (June 1957). (2000)

Hosiery equipment, by W. E. Shinn, p. 33-44; Outerwear equipment, by T. D. Efland, p. 44-50; Underwear equipment, by W. E. Shinn, p. 50-53; Auxiliary equipment, p. 53-62.

TEXTILE MACHINERY IN GERMANY AND ABROAD. K. F. Seim. Spinner u. Weber 74, No. 13: 551-552 (1956). In German. Through BCIRA 36: 642 (1956). (2001)

The present state of textile machinery manufacture in Germany and other countries is compared, and a table is given showing the comparative development from 1930-1955.

SMALL GERMAN-FRENCH-ENGLISH GLOSSARY. Industrie Textile: 225-227 (March 1956); 305-307 (April 1956); 385-386 (May 1956). Through BCIRA 36: 576 (1956). (2002)

An alphabetical selection of technical terms is given in English (with French and German), French (with German and English), and German (with English and French equivalents).

DEFINITIONS OF TEXTILE MECHANICS TERMS AND THEIR ENGLISH AND GERMAN EQUIVALENTS. F. Ecochard. Rayonne et Fibres Synthet. 12, No. 5: 697-708; No. 6: 893-900; No. 7: 993-1004; No. 8: 1150-1153 (1956). In French. Through BCIRA 36: 643 (1956). (2003)

TEXTILES IN ISRAEL. Israel Publications Ltd, Tel-Aviv, Israel, 1956. $6.50. (2004)

This survey of the Israeli textile industry includes: its history, production of cotton, flax, wool, and synthetic fibers, knitting, spinning, weaving, finishing, quality control, research, management, and vocational training.

TEXTILE AND ENGINEERING DIARY FOR INDIA AND PAKISTAN, 1957. John Worrall Ltd, Oldham, England, 1957. 560 p. (2005)

Guide to Indian manufacturers of textiles, textile machinery, and textile auxiliaries, and to trade organizations and trade names.

REPORTS ON THE PROGRESS OF APPLIED CHEMISTRY, v. 40, 1955. Society of Chemical Industry, 56 Victoria Street, London, S.W. 1, England, 1955. 1000 p. (2006)

The following literature reviews are of particular interest to the textile technologist: Reactivity of cellulose, by R. J. E. Cumberbirch, p. 451-463; Protein fibers, by J. F. Keggin, p. 464-474; Synthetic fibers, by O. B. Edgar and others, p. 475-492; and Textile finishing, by A. J. Hall, p. 493-501.

# PATENT CHECKLIST

**U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.**



## YARN PRODUCTION B

HEAVY DUTY STAPLE FIBER CUTTER FOR HIGH TENACITY MATERIALS. W. V. Henry (to Am. Enka Corp.). USP 2 792 888, May 21, 1957. (2007)

TAKE UP DEVICE FOR BELT SUPPORTED YARNS. E. Husung and F. Lintzen (to Am. Enka Corp.). USP 2 792 931, May 21, 1957. (2008)

Yarn guide, sensitive to tension variation, for controlling the take up rate of yarns at a fixed point on a belt supporting synthetic yarns in a zig zag course.

CRIMPING APPARATUS FOR FILAMENTS AND FILAMENT YARN. J. H. Pfau (to Bachmann Uxbridge Worsted Corp.). USP 2 793 418, May 28, 1957. (2009)

APPARATUS FOR CONTINUOUS LIQUID PROCESSING OF FRESHLY SPUN RAYON FILAMENTS. W. H. Furness. USP 2 793 931, May 28, 1957. (2010)

LACING SYSTEM FOR THREAD-ADVANCING ROTORS FOR SYNTHETIC FILAMENTS. C. D. Vandenburgh and H. E. Pape (to Am. Viscose Corp.). USP 2 794 542, June 4, 1957. (2011)

HEAT TREATING NYLON FILAMENTS. A. J. Cheney, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 794 700, June 4, 1957. (2012)

Method of conditioning nylon filaments to improve bending recovery for use as bristles or musical instrument strings. The filaments are passed over a rotating heated metal drum at 165° to 205° C.

TOW TO SLIVER. H. O. Hess (to Joh. Jacob Rieter & Co. Ltd). USP 2 795 010, June 11, 1957. (2013)

Apparatus for cutting continuous filaments, subjecting the roving formed alternately to a multistage forward and rearward combing as well as to simultaneous drawing, and subsequently condensing the sliver into a draftable staple fiber strand.



## OPENING, PICKING, FIBER PREPARATION B 1

APPARATUS FOR PROCESSING FILAMENTARY TOWS. G. E. Hayward and G. K. Luggar (Courtaulds Ltd). BP 748 434, May 2, 1956. Through BCIRA 37: 96 (1957). (2014)

Apparatus for opening a traveling tow of crimped continuous filaments under tension sufficient to straighten out the crimp but not to stretch the filaments consists of feeding and delivery devices and, between them, two or more contiguous discs mounted eccentrically on a common driving spindle for teasing the filaments apart as the tow proceeds through a sinuous path.

## CARDING AND COMBING B 2

AUTOMATICALLY CONTROLLING SLIVER UNIFORMITY IN CARDING. R. Gibson, G. H. Thorndike and C. Liversidge (to Wool Industries Research Assoc.). USP 2 795 012, June 11, 1957. (2015)

Device for continuously measuring the uniformity of sliver output and automatically adjusting it by varying the speed of the doffer relative to the swift.

## DRAWING AND ROVING B 3

APPARATUS FOR DETECTING AND CORRECTING SLIVER IRREGULARITY. G. F. Raper. BP 767 296, Jan. 30, 1957. Through BCIRA 37: 99 (1957). (2016)

When the relay rods for adjusting irregularity in drafting are centralized for a new average sliver thickness, the correct appropriate magnification is automatically set at the same time.

STOP MOTION FOR ROVING MACHINES. S. J. Adams. USP 2 793 490, May 28, 1957. (2017)

Drop wire arrangement in which the drop wires normally engage the roving at an angle and stop the machine when moved to a vertical position.

PIN DRAFTER STOP MOTION. R. J. de Lathauwer. USP 2 795 013, June 11, 1957. (2018)

Means for stopping a pin drafter when the sliver varies in size beyond certain predetermined limits.

## SPINNING, WINDING, TWISTING B 4

HYDRAULIC OR PNEUMATIC WEIGHTING SYSTEM FOR TOP DRAFTING ROLLS. E. B. Kempe (to SKF Kugellagerfabriken). USP 2 793 400, May 28, 1957. (2019)

CENTRIFUGAL SPINNING APPARATUS WITH YARN GUIDE. V. Svaty (to Mira Nar. Pod.). USP 2 793 489, May 28, 1957. (2020)

GLASS FIBER WINDING APPARATUS. R. L. Hayden (to L-O-F Glass Fibers Co.). USP 2 793 819, May 28, 1957. (2021)

PLASTIC MOLDED BOBBIN. P. C. Consoletti (to Draper Corp.). USP 2 793 822, May 28, 1957). (2022)

Plastic bobbin whose tapered barrel has spaced grooves for controlled yarn withdrawal.

SPIN DRAFTER FOR CRIMPED SYNTHETIC FIBERS. O. E. Sandelin (to Warner & Swasey Co.). USP 2 794 214, June 4, 1957. (2023)

Drafting head in which spaced pairs of rollers nip the fiber strand at the exit and entrance ends of the drafting ratch. The exit end has a higher speed than the entrance end. The slowly moving crimped fibers are stretched to remove their crimp.

REPLACEABLE BEARINGS FOR TOP ROLL CAP BARS OF DRAFTING MACHINES. J. O. Dayvault, Sr. USP 2 794 215, June 4, 1957. (2024)

WINDING MACHINE TRAVERSE CAM LUBRICATION MEANS. J. V. Keith (to Universal Winding Co.). USP 2 794 517, June 4, 1957. (2025)

PIN-BOARD LOADING MECHANISM. G. A. Snow (to Whitin Machine Works). USP 2 794 532, June 4, 1957. (2026)

Automatic conveyor apparatus for placing full bobbins successively on the pins of a pin-board, and for removing and replacing each pin-board as it is fully loaded.

TWISTER SPINDLES. H. M. Brown (to Clemson College). USP 2 795 102, June 11, 1957. (2027)

Twister spindle for applying more than two twists to yarn for each revolution of the spindle thus eliminating spooling and retwisting operations.





## YARNS B 5

HEATING APPARATUS FOR MANUFACTURING STRETCH NYLON YARN. F. E. Gehrke, F. J. Hughes and J. W. Ritz (to Sylvania Electric Products, Inc.). USP 2 793 277, May 21, 1957. (2028)

# FABRIC PRODUCTION C

## WARPING, SLASHING, YARN PREPARATION C 1

YARN PACKAGE SHIPPING CONTAINER. J. P. Ellis (to Celanese Corp.). USP 2 792 112, May 14, 1957. (2029)

APPARATUS FOR SIZING YARN. I. L. Griffin. USP 2 794 236, June 4, 1957. (2030)

Mechanism for controlling the pressure between the upper and lower squeeze rolls or between the stripper or size regulating roll and the lower squeeze rolls of a sizing box.

## WEAVING C 2

EMPTY SHUTTLE DISCHARGE DEVICE FOR AUTOMATIC SHUTTLE CHANGING LOOMS. E. A. Butin (France). USP 2 792 026, May 14, 1957. (2031)

LOOM TAKE-UP ASSEMBLY. J. M. Beck, Jr., G. R. Wheeler and W. C. Whitman (to West Point Mfg. Co.). USP 2 792 713, May 21, 1957. (2032)

Package gear train loom take-up unit adapted for attachment to and removal from conventional loom frames.

BOBBIN TIP HOLDER FOR FILLING FEEDERS. J. D. Tice. USP 2 792 849, May 21, 1957. (2033)

Bobbin tip holder which permits the axial withdrawal of the filling end, so that convolutions of the yarn formed by the bobbin rotation slip off the tip of the bobbin.

AUTOMATIC TEMPLE KNIFE ATTACHMENT. E. P. Cashion and D. Friddle. USP 2 792 850, May 21, 1957. (2034)

Temple knife attachment which places the knife in operative position only in response to the actuation of the automatic bobbin change mechanism.

DOUBLE WOVEN BLANKET. J. N. Moeckel (to Pepperell Mfg. Co.). USP 2 792 851, May 21, 1957. (2035)

Technique for weaving a double woven twill blanket cloth so that it shrinks less than 4% during initial laundering and loses less than 5% of weight during napping.

WEFT BEAT-UP AND SHUTTLE GUIDES FOR HIGH SPEED LOOMS. G. W. Dunham. USP 2 793 658, May 28, 1957. (2036)

STRIPPING THREAD WASTE FROM BOBBINS. W. Stutz (to Stutz & Cie). USP 2 795 030, June 11, 1957. (2037)

Suction device for stripping shuttle bobbins in automatic looms prior to discharge.

DACRON HARNESS CORD FOR JACQUARD LOOMS. C. D. Houk and W. E. Thompson, Jr. (to Heminway & Bartlett Mfg. Co.). USP 2 795 242, June 11, 1957. (2038)

LOOM JACKETBOARD. H. D. Strazzeri (to Albany Felt Co.). USP 2 795 243, June 11, 1957. (2039)

The position and movement of a jacketboard in a loom for weaving tubular material is controlled by means of a metal plate embedded in the board and a number of magnets.

FABRIC WITH EXTRA WEFT IN SELVAGE. D. W. Shimwell (to Weaving Research & Textile Commission Agents Ltd). USP 2 795 244, June 11, 1957. (2040)

Woven fabric with more weft in the selvage than in the body of the fabric is produced by shedding the warp threads after each weft pick in the body of the fabric and shedding the warp threads after alternate weft picks in the selvage. The turned-back weft ends are bound in the fabric in the same warp shed as the weft ends to which they are attached.

## KNITTING C 3

SHOGGING ATTACHMENT FOR KNITTING TWO-BY-TWO RIB TOP HOSE ON AUTOMATIC TRANSFER CIRCULAR KNITTING MACHINES. T. B. Walker. USP 2 791 108, May 7, 1957. (2041)

YARN TENSION DEVICE FOR USE WITH TEXTILE TUBES IN KNITTING MACHINERY. C. H. Lipe, Jr. (to Alamance Industries). USP 2 793 823, May 28, 1957. (2042)

COTTON TYPE FULL-FASHIONED HOSIERY MACHINE. K. Howie. USP 2 795 122, June 11, 1957. (2043)

Sinkers, dividers, and knockover bits for supporting and aligning the needles against lateral flexure, while simultaneously providing sufficient clearance to avoid pinching of yarns.

HOSIERY. W. Schumann (to Diamond Hosiery Corp.). USP 2 795 123, June 11, 1957. (2044)

Snag resistant, full-fashioned nylon monofilament hosiery is produced by using two monofilament threads (one of which is preshrunk) in the conventional single thread carrier, so that the knit fabric is made of double thread loops, with one thread of each loop exerting tension against the other at the cross-over portion of the loops.



## FABRICS C 4

RIBBED FABRIC REINFORCED ELASTOMERIC BELTING OR HOSE. M. Arnett (to Brit. Tyre & Rubber Co. Ltd). USP 2 793 151, May 21, 1957. (2045)

APPLYING A BASE LAYER TO UNDULATING BOUCLE CARPETS AND FABRICS. P. Reinhard. USP 2 793 674, May 28, 1957. (2046)

METHOD OF PRODUCING FIBER GLASS MATS. A. T. Dildilian and K. M. Wood (to Fiber Glass Industries). USP 2 794 237 and 2 794 238, June 4, 1957. (2047)

Low density glass fiber mats for use in reinforcing molded plastics are made of chopped up continuous glass strands, mechanically interlocked by the glass strands themselves.

CELLULOSE ACETATE CIGARETTE FILTERS. R. T. Crawford and J. B. Stevens (to Eastman Kodak Co.). USP 2 794 239 and 2 794 480, June 4, 1957. (2048)

Apparatus for conversion of cellulose acetate tow into a compact, rigid, structurally unitary means of filaments for cigarette filters.

IRONER ROLL COVER. J. K. Allen. USP 2 794 240, June 4, 1957. (2049)

Covering consisting of an inner woven sleeve of glass yarn, asbestos, or metallic wool, an intermediate silicone sleeve, and a thin fabric outer covering. The padding will stand up against temperatures as high as 500° to 600° F.

SAFETY BELT WEBBING FOR AUTOMOBILES. E. F. Gatzke (to Russell Mfg. Co.). USP 2 794 450, June 4, 1957. (2050)

Safety belt web woven to provide alternate ridges and depressions to improve the grip of the buckle without requiring it to pierce or otherwise damage the surface of the webbing.

METHOD AND APPARATUS FOR FIBER REINFORCED RESIN TUBING. A. C. Anderson (to A. O. Smith Corp.). USP 2 794 481, June 4, 1957. (2051)

Prestressing reinforcing fibers during resin curing by using the heat of curing to expand the mandrel on which the pipe is wound, thus putting the fibers under tension.

INSULATION USES OF MATTED LONG COTTON STALK FIBERS. A. M. Spencer and A. Jacobson (to Fibre Corp. of America). USP 2 794 738, June 4, 1957. (2052)

Flexible sheets of insulating material are prepared by chopping cotton stalks into short lengths, digesting in alkali, beating to separate the fibers, and pressing to form a coherent sheet.

NONWOVEN FABRIC. I. S. Ness (to Chicopee Mfg. Corp.). USP 2 794 750, June 4, 1957. (2053)

Nonwoven fabrics, with good capacity for lateral extension when stressed in the cross direction, are prepared by "island bonding" the web with separated areas of binder. The binder areas occupy from 10% to 25% of the total lateral surface.

RESIN IMPREGNATED FIBER GLASS MAT. A. T. Dildilian (to Fiber Glass Industries). USP 2 794 759, June 4, 1957. (2054)

Glass fiber sheet containing the full amount of resin required for the final molded glass fiber reinforced plastic article.

APPARATUS FOR APPLYING A FOAM RUBBER BACKING TO CARPETS. J. Marco (to Marco Co.). USP 2 795 207, June 11, 1957. (2055)

NONWOVEN REINFORCED PLASTIC SHEET. E. A. Rodman (to E. I. du Pont de Nemours & Co.). USP 2 795 524, June 11, 1957. (2056)

High strength, chemically resistant, pliable plastic sheets are formed by embedding a compacted nonwoven web of synthetic fibers in a copolymer of butadiene and acrylonitrile.

# FINISHING AND CHEMICAL PROCESSING D

## CHEMICAL PROCESSES D 1

PRODUCTION OF COMPOSITE ARTICLES (CONVEYOR BELTS) MADE OF REGENERATED CELLULOSE YARNS BONDED TO POLYVINYL CHLORIDE COMPOSITIONS. E. H. Sharples (to Courtaulds Ltd). BP 767 110, Jan. 30, 1957. (2057)

TREATING WOVEN AND KNITTED FABRICS TO INCREASE THEIR ELASTICITY. K. Wirz (Germany). BP 767 287, Jan. 30, 1957. Through BCIRA 37: 109 (1957). (2058)

Impregnation with a mixture of a linear polyester and a di- or polyisocyanate is described.

CONTINUOUS FINISHING APPARATUS. H. Altosaar (to Dominion Textile Co. Ltd). USP 2 792 700, May 21, 1957. (2059)

Apparatus for continuous finishing of fabrics under heat and pressure in which the fabric is unrolled from the first storage roll, subjected to the finishing operation, and re-rolled in finished condition.

FABRIC TENSION REGULATION. P. J. H. Seelen (to N. V. P. F. van Vlissingen & Co.). USP 2 793 033, May 21, 1957. (2060)

Roll arrangement for eliminating elongation or shrinkage during liquid or vapor treatment of an elongated fabric web.



SHRINKPROOFING REGENERATED RAYON CELLULOSE FABRIC. D. M. Musser (to Onyx Oil & Chem. Co.). USP 2 793 929, May 28, 1957. (2061)

Shrinkproofing rayon by impregnating the fabric with an aqueous solution of an alkoxymethylene quaternary ammonium compound, framing the impregnated fabric to its original dimension, and curing at 145° to 160° C.

TREATMENT OF CYANOETHYLATED COTTON WITH AMINES. J. Compton and R. P. Barber (to Inst. of Textile Technology). USP 2 793 930, May 28, 1957. (2062)

Improving the tensile strength, elongation, and abrasion resistance of cyanoethylated cotton fibers, yarns, and fabrics by impregnation with an aqueous solution of an amine and washing to remove the unreacted amine.

CREASE AND SHRINK RESISTANT TREATMENT OF TEXTILES. C. W. Schroeder (to Shell Development Co.). USP 2 794 754, June 4, 1957. (2063)

Making cotton or rayon crease and shrink-resistant by impregnation with an aqueous solution of a polyepoxide, a polymethylol substituted phenol, and an epoxy curing agent.

FLAMEPROOFING NYLON FABRICS. E. H. Rossin (to Monsanto Chem. Co.). USP 2 795 513, June 11, 1957. (2064)

A water-insoluble, flame resistant finish for nylon consists of the water-insoluble reaction product of dimethylol ethylene urea with thiourea.

FABRIC SHRINKPROOFING AND WATERPROOFING. A. Lowe and G. Williams (to Imperial Chem. Industries Ltd). USP 2 795 517, June 11, 1957. (2065)

Fabric may be made dimensionally stable and water repellent and fabric finishes more permanent to laundering by impregnation with an organic hydrazide followed by reaction with nitrous acid and formaldehyde to form an organic isocyanate.

## DYEING AND PRINTING D 2

DECORATION OF TEXTILE MATERIALS. C. S. Joynson. BP 748 155, Apr. 25, 1956. Through BCIRA 37: 109 (1957). (2066)

A pattern is painted on a sheet of greaseproof paper, the base of the paint being a noncured resin, the sheet is placed face down on the textile fabric, and the paint is transferred and set by the application of a hot smoothing iron.

PROCESS FOR DYEING POLYACRYLONITRILE MATERIALS. Sandoz Ltd. BP 767 053, Jan. 30, 1957. Through BCIRA 37: 108 (1957). (2067)

Water-soluble organic dyes may be applied by introducing into the dyebath a water-soluble cupric compound (e.g. copper sulfate) and metallic copper.

PROCESS FOR DYEING POLYACRYLONITRILE FIBERS. Ciba Ltd. BP 767 117, Jan. 30, 1957. Through BCIRA 37: 108 (1957). (2068)

Azo dyes free from sulfonic acid groups but having at least one amino, salt-forming, group are used.

IMPROVING THE FASTNESS OF SUBSTANTIVE DYESTUFFS. Farbenfabriken Bayer AG. BP 767 152, Jan. 30, 1957. Through BCIRA 37: 108 (1957). (2069)

Aftertreatment with a complex metal compound of a diguanide substituted polyalkylene imine (preferably of polyethylene imine) is described.

RADIALLY COMPRESSIBLE SPRING SUPPORT FOR ROLLS OF YARN. G. Tigges and M. E. Korff (Germany). BP 767 251, Jan. 30, 1957. Through BCIRA 37: 108 (1957). (2070)

A shell support for yarn packages during bleaching or dyeing is described.

ACID DYEING OF POLYACRYLONITRILE FIBERS. W. B. Kaupin and J. P. Patsourakos (to Pacific Mills). USP 2 792 276, May 14, 1957. (2071)

Polyacrylonitrile fibers, yarns, or fabrics of increased receptivity to acid dyes are obtained by pretreatment with hydroxylamine salts.

PRESSURE DYE MACHINE. W. J. Newcomb and J. S. Williamson (to Burlington Engineering Co.). USP 2 792 702, May 21, 1957. (2072)

High temperature, pressure dye machine adapted for reversing two way flow through a cloth beam.

DYE KETTLE REEL. W. W. McKee (to Collins & Aikman Corp.). USP 2 793 034, May 21, 1957. (2073)

ANTHRAQUINONE DYE FOR POLYVINYL FIBERS. R. Ratchewski (to Compagnie Francaise des Matieres Colorantes). USP 2 795 477, June 11, 1957. (2074)

## MECHANICAL PROCESSES D 3

FABRIC FOLDING MACHINERY. R. B. Gibson. BP 748 832, May 9, 1956. Through BCIRA 37: 110 (1957). (2075)

A device for laying in folds fabric coming from a tenter or other machine has at least one swinging arm carrying a pair of rollers between which the fabric is fed, means for moving the rollers so that one of them makes contact with the upper fold of the pile when the arm swings in one direction and the other makes contact on the return swing, and means for raising the arm as the pile grows.

MANGLING MACHINES. H. L. Byrd (to Sir James Farmer Norton & Co. Ltd). BP 767 301, Jan. 30, 1957. Through BCIRA 37: 110 (1957). (2076)

Means for applying pressure to mangle bowls to give more uniform distribution of pressure along the bowls is described.



ELIMINATING STRAINS IN HANDLING FABRICS. J. Cohn, J. G. Walter and E. Cohn (to Samcoe Holding Corp.). USP 2 792 615, May 21, 1957. (2077)

Apparatus for handling continuous lengths of wet fabric in loop form to minimize subsequent shrinkage by eliminating strain or tension during treatment.

METHOD FOR PRESHRINKING FABRIC. C. N. Cone and L. A. Hughes (to Levi Strauss & Co.). USP 2 792 616, May 21, 1957. (2078)

Continuous method for preshrinking woven fabric by treating the fabric with a wetting agent and flexing, without tension, at 160° to 180° F.

HEAT SETTING THERMOPLASTIC FISH NETTING. J. W. E. Haller (to Linen Thread Co. Ltd). USP 2 792 617, May 21, 1957. (2079)

Non-slip knots in fish nets made from thermoplastic synthetic resin twines are produced by coating the twine with a temporary water-soluble slip preventive agent, knotting into mesh, gathering the mesh into rope form, and heat setting under tension.

SURGICAL GAUZE PAD FOLDING MACHINE. H. Ganz (to Johnson & Johnson). USP 2 794 482, June 4, 1957. (2080)

SKEW DETECTING AND WEFT STRAIGHTENING APPARATUS. J. D. Robertson and J. L. Broomfield. USP 2 795 029, June 11, 1957. (2081)

Apparatus for detecting and straightening even relatively small weft skewness in a traveling fabric.

FOLDING DEVICE FOR CLOTH LAYING MACHINE. H. W. Bax. USP 2 795 416, June 11, 1957. (2082)

# TESTING AND MEASUREMENT E

## YARNS E 2

PICKER LAP ANALYZER. F. P. Strother (to Deering Milliken Res. Corp.). USP 2 770 843, Nov. 20, 1956. (2083)

An analyzer, for pickers, which will record the density of lap produced without destroying the continuity of the lap.

AUTOMATIC EVALUATOR FOR UNIFORMITY ANALYZER. E. J. Bernet (to Inst. of Textile Technology). USP 2 774 940, Dec. 18, 1956. (2084)

Automatic indication of the degree of uniformity of the weight per unit length or the diameter of yarn, as it moves through a test apparatus, by means of the rapid evaluation of the uniformity of a corresponding pulsating electrical potential.